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=> d que stat l14
L1          4432 SEA FILE=HCAPLUS ABB=ON  ?COMPOSIT?(L)?BIOL?(L)(BIO?(W)?STRUCT?
                 OR ?DEVICE? OR ?MATER?)
L2           810 SEA FILE=HCAPLUS ABB=ON  L1 AND (?DETECT? OR ?MEASUR?)(L)(?META
                 L? OR ?MATER?)
L3             8 SEA FILE=HCAPLUS ABB=ON  L2 AND ?METABOL?(W)?ACTIV?
L5             1 SEA FILE=HCAPLUS ABB=ON  L2 AND ?LATEX?
L6             9 SEA FILE=HCAPLUS ABB=ON  L3 OR L5
L7             1 SEA FILE=REGISTRY ABB=ON  MERCURY/CN
L8        150248 SEA FILE=HCAPLUS ABB=ON  L7 OR MERCURY
L9            26 SEA FILE=HCAPLUS ABB=ON  L2 AND L8
L10           35 SEA FILE=HCAPLUS ABB=ON  L6 OR L9
L11            6 SEA FILE=HCAPLUS ABB=ON  ?COMPOSIT?(W)?BIOL?(W)(BIO?(W)?STRUCT?
                 OR ?DEVICE? OR ?MATER?)
L14           40 SEA FILE=HCAPLUS ABB=ON  L10 OR L11


=> d ibib abs hitrn 1-40 l14

L14  ANSWER 1 OF 40  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2002:914742  HCAPLUS
DOCUMENT NUMBER:          137:389252
TITLE:                    Calcium phosphate-metal composites for biological use
                          and their preparation
INVENTOR(S):              Hosoi, Kazuyuki; Onoki, Takakuni; Hashida, Toshiyuki
PATENT ASSIGNEE(S):       Shiraishi Kogyo K. K., Japan
SOURCE:                   Jpn. Kokai Tokkyo Koho, 5 pp.
                          CODEN: JKXXAF
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     JP 2002345947      A2   20021203       JP 2001-156905   20010525
PRIORITY APPLN. INFO.:                   JP 2001-156905      20010525
AB   The composites are prepd. by hydrothermal reaction of powder mixts. of
     CaHPO4.2H2O and Ca(OH)2 and bonding the resulted hydroxyapatite-contg. Ca
     phosphates with metals under pressure.  Ca phosphate was bonded with Ti to
     give a test piece showing interfacial fracture toughness 0.30 MPaml/2.

L14  ANSWER 2 OF 40  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2002:875353  HCAPLUS
TITLE:                    Mutagenic activity of structurally related oxiranes
                          and siloranes in Salmonella typhimurium
AUTHOR(S):                Schweikl, Helmut; Schmalz, Gottfried; Weinmann,
                          Wolfgang
CORPORATE SOURCE:         Department of Operative Dentistry and Periodontology,
                          University of Regensburg, Regensburg, D-93042, Germany
SOURCE:                   Mutation Research (2002), 521(1-2), 19-27
                          CODEN: MUREAV; ISSN: 0027-5107
PUBLISHER:                Elsevier Science B.V.
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   Ring-opening mols. like oxiranes (epoxides) maybe suitable for the
     development of non-shrinking dental composite materials
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. Since oxiranes are reactive mols., they can cause adverse **biol** . effects in living organisms. The introduction of siloranes, a merger of silane and oxirane, may solve this problem. Here, new oxiranes and siloranes were analyzed for the induction of mutations in Salmonella typhimurium (TA97a, TA98, TA100, and TA102), and a reactive oxirane mol. served as a ref. This chem., epoxy cyclohexyl methyl-epoxy cyclohexane carboxylate (Est-Ep) tested pos. in S. typhimurium TA100. The nos. of mutants were about 3-10-fold higher than controls in the presence of a **metabolically active** S9 fraction isolated from rat liver. Only a weak mutagenic effect was obsd. after direct testing (without S9). Di(cyclohexene-epoxide methyl)ether (Eth-Ep) also caused a slight increase of mutant nos. in TA100 both in the presence and absence of S9. In contrast, no effects were **detected** with the large oxirane mols., 2,2-bis(4,1-phenylenoxy-3,1-propanediyl-3-oxatricyclo [3.2.1.02,4]octylcarboxy) propylidene (Nor-BP-Ep) and 2,2-bis(4,1-phenylenoxy-3,1-propanediyl-3,4-epoxycyclo-hexylcarboxylic acid) propylidene (Est-BP-Ep). As to the siloranes, 1,4-bis(2,3-epoxypropyloxypropyl-dimethylsilyl)-benzene (Phen-Glyc) was a direct mutagen in S. typhimurium TA100 and TA102. This weak but dose-related increase of revertants was even enhanced by S9. Other siloranes, like di-3,4-epoxy cyclohexylmethyl-dimethyl-silane (DiMe-Sil), methyl-bis[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]phenyl silane (Ph-Sil), and 1,3,5,7-tetrakis(Et cyclohexane epoxy)-1,3,5,7-tetramethyl-cyclotetrasiloxane (TET-Sil) tested neg. in all S. typhimurium strains.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:582060 HCAPLUS
DOCUMENT NUMBER: 137:299094
TITLE: Environmental properties of fly ash from the co-combustion and an environmental quality assurance system
AUTHOR(S): Laine-Ylijoki, Jutta; Wahlstroem, Margareta; Peltola, Kari; Pihlajaniemi, Miina; Maekelae, Esa
CORPORATE SOURCE: VTT Prosessit, Finland
SOURCE: VTT Tiedotteita (2002), 2141, 1-118
CODEN: VTIEEE; ISSN: 1235-0605
DOCUMENT TYPE: Report
LANGUAGE: Finnish

AB The aim of the present research was to characterize the **compositional** variations of fly ash from co-combustion of peat, wood and **biol**. paper work sludge, environmental acceptability of fly ashes and the correlation of used fuels on ash end-quality. In addn. a proposed system for environmental quality assessment of fly ashes was established, including sampling methods for environmental qualification of ashes, assessment criteria for environmental properties of ashes and quality control methods. The combustion cycles related to the research were conducted at a peat-fired power plant using forest industrial waste. By varying process conditions and fuel compns. during the combustion cycles the effects on fly ash **compn**., environmental properties and crit. parameters relating to these were established. The environmental acceptability of ashes was primarily. assessed through obtained **compositional** data and results from characteristic leaching tests. The evaluation of environmental acceptability of ashes is based on environmental properties and **compositional** variations of representative ash samples. It is also very important to identify the parameters influencing ash properties and compns., such as fuel fractions,

prevailing and possibly changing pH-conditions. Ashes from co-combustion are similar to peat and coal fly ashes in terms of **compn.** and leaching properties. The supplementary combustion of sludge did not increase the overall concn. of ashes and did not have an influence on studied leaching properties. The Chromium and Vanadium concns. were lower in the studied ash samples than those typically found in coal fly ashes. The quality control methods suitable for environmental qualification assessments are also discussed. For quality control of leaching tests an example procedure on manufg. of ref. **material**, characterization and assessment of leaching properties is presented. Included are also results from ref. **measurements** to assess environmental acceptance methods.

IT **7439-97-6, Mercury**, occurrence
RL: OCU (Occurrence, unclassified); OCCU (Occurrence)
(compositional variations of fly ash from co-combustion of peat, wood and biol. paper work sludge and environmental quality assessment)

L14 ANSWER 4 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:498411 HCAPLUS
DOCUMENT NUMBER: 137:151173
TITLE: Methylmercury determination in biological samples by derivatization, solid-phase microextraction and gas chromatography with microwave-induced plasma atomic emission spectrometry
AUTHOR(S): Rodil, R.; Carro, A. M.; Lorenzo, R. A.; Abuin, M.; Cela, R.
CORPORATE SOURCE: Facultad de Quimica, Departamento de Quimica Analitica, Nutricion y Bromatologia, Universidad de Santiago de Compostela, Santiago de Compostela, 15782, Spain
SOURCE: Journal of Chromatography, A (2002), 963(1-2), 313-323
CODEN: JCRAEY; ISSN: 0021-9673
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A method for the extn. and gas chromatog. detn. of methylmercury in **biol.** matrixes is presented. By combining the advantages of 2 extn. techniques - microwave-assisted extn. (MAE) and solid-phase microextn. (SPME) - the sepn. of methylmercury from **biol.** samples is possible. Specifically, the procedure involves microwave extn. with 3M hydrochloric acid, followed by aq.-phase derivatization with sodium tetraphenylborate and headspace SPME with a silica fiber coated with polydimethylsiloxane (PDMS). For optimization of the derivatization-SPME procedure, a central **composite** exptl. design with .alpha.=1.682 and 2 central points was used to model gas-chromatog. peak areas as functions of pH, extn. temp., and sorption time. A desirability function was then used for the simultaneous optimization for methylmercury and Hg(II). The optimal derivatization-SPME conditions identified were close to pH 5, temp. 100.degree., and sorption time 15 min. The identification and quantification of the extd. methylmercury is carried out by gas chromatog. with microwave-induced plasma at. emission spectrometry **detection**. The validity of the new procedure is shown by the results of analyses of certified ref. **materials**.

IT **7439-97-6D, Mercury**, Me compds.
RL: ANT (Analyte); ANST (Analytical study)
(methylmercury detn. in biol. samples by derivatization solid-phase microextn. and gas chromatog. with microwave-induced plasma at. emission spectrometry)

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 5 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:379015 HCAPLUS
DOCUMENT NUMBER: 137:134085
TITLE: Direct **mercury** determination in aqueous slurries of environmental and biological samples by cold vapor generation-electrothermal atomic absorption spectrometry
AUTHOR(S): Moreda-Pineiro, Jorge; Lopez-Mahia, Purificacion; Muniategui-Lorenzo, Soledad; Fernandez-Fernandez, Esther; Prada-Rodriguez, Dario
CORPORATE SOURCE: Faculty of Sciences, Department of Analytical Chemistry, University of Coruna, Coruna, E-15071, Spain
SOURCE: Analytica Chimica Acta (2002), 460(1), 111-122
CODEN: ACACAM; ISSN: 0003-2670
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Direct cold vapor generation from aq. slurries of environmental (marine sediment, soil, coal) and **biol**. (human hair, seafood) samples were developed using a batch mode generation system coupled with electrothermal at. absorption spectroscopy. The effects of several variables affecting the cold vapor generation efficiency from solid particles (hydrochloric acid and Na tetrahydroborate concns., Ar flow rate, acid soln. vol. and mean particle size) were evaluated using a Plackett-Burman exptl. design. In addn., variables affecting cold vapor trapping and atomization efficiency on Ir-treated graphite tubes (trapping and atomization temps. and trapping time) were also studied. Atomization and trapping temps., trapping time and HCl concn. were the significant variables. The 22+star and 23+star central **composite** designs were used to obtain optimum values of the variables selected. The accuracy of methods were verified by using several certified ref. **materials** (PACS-1, GBW-07410, NIST-1632c, CRM-397 and DORM-2). A characteristic mass of 390 pg were achieved. The **detection** limits of methods were at 40-600 ng g-1. A particle size <50 .mu.m is adequate to obtain total cold vapor generation of Hg content in the aq. slurry particles.
IT **7439-97-6, Mercury**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(direct **mercury** detn. in aq. slurries of environmental and biol. samples by cold vapor generation-electrothermal at. absorption spectrometry)
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 6 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:25336 HCAPLUS
DOCUMENT NUMBER: 136:314312
TITLE: The management of contaminated sediment in Hong Kong
AUTHOR(S): Dawes, Adrian
CORPORATE SOURCE: Environmental Protection Department, Government of the Hong Kong Special Administrative Region of China, Peop. Rep. China
SOURCE: Soil & Sediment Contamination (2001), 10(6), 687-699
CODEN: SSCOC6

PUBLISHER: CRC Press LLC
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Many years of uncontrolled discharge of sewage and industrial effluent have resulted in serious contamination of much of the sediments underlying inland and nearshore coastal waters in Hong Kong by potentially toxic heavy **metal** and trace org. pollutants. Much has been achieved to improve control of this pollution at the source and prevent further deterioration. Nevertheless, comprehensive environmental assessment and management **measures** are required to ensure that any unacceptably contaminated sediment that must be dredged to facilitate infrastructural development is safely handled and disposed of. It is estd. that some 50 Mm3 of sediment classified as unacceptably contaminated may require dredging and special management elsewhere over the coming 10-yr period. To facilitate improved decision making about the most appropriate disposal options for dredged sediment Hong Kong has recently implemented a new sediment quality assessment framework under which information on the **biol**. activity of contaminated **material** is considered in addn. to data on chem. **compn**. Dredged sediment classified as unacceptably contaminated has been disposed of at a contained disposal facility at East Sha Chau since 1992. To date over 20 Mm3 of sediment has been placed into seabed pits that are subsequently capped with clay. The site is subject to a rigorous monitoring program that has clearly demonstrated its environmental acceptability.
IT **7439-97-6, Mercury**, occurrence
RL: POL (Pollutant); OCCU (Occurrence)
(management of contaminated sediment in Hong Kong)
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 7 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:170685 HCAPLUS
TITLE: Sixty years in chemical science
AUTHOR(S): Asperger, S.
CORPORATE SOURCE: Research Units, Croatian Acad. of Sciences and Arts, Zagreb, 10000, Croatia
SOURCE: Kem. Ind. (2001), 50(2), 65-85
CODEN: KJUIAR; ISSN: 0022-9830
PUBLISHER: Hrvatsko Drustvo Kemijskih Inzenjera i Tehnologa
DOCUMENT TYPE: Journal; Biography
LANGUAGE: Croatian
AB The author (b.1921), retired Professor of Phys. Chem. at the Faculty of Pharmacy and Biochem., University of Zagreb, studied chem. at the Tech. faculty of University of Zagreb, Croatia (1939-43), and obtained his Ph.D. degree at the same faculty in 1946. In collaboration with Professor Karlo Weber, during the work on his Ph.D. thesis, he discovered a neg. temp. coeff. in photooxidn. of glycerol (and ethylene glycol) with dichromate: the rate of reactions decreases with increasing temp. A reaction mechanism has been developed, which supposed the preceding endothermic equil.: Cr2O72+ HOH .dblarw. 2HCrO4-(1). The dichromate ion was found to be the photochem. active component. Its concn. decreases with increasing temp., while the following photoreaction is practically insensitive to the temp. increase. This enabled the calcn. of the equil. enthalpy as 5060 J mol-1. The enthalpy previously calcd. by LaMer and Read from their **measurements** of the heat of neutralization of sodium dichromate by sodium hydroxide was found to be 57070 mol-1, the value ten times higher than the value we detd.4 When we recalcd. the LaMer and Read's exptl. data with a newly published const. of equil. (1) we obtained the value

4960 J mol-1, in a reasonable agreement with the caloric effect of the temp. function of the reaction rate (5060 J mol-1). The reaction mechanism required the existence of four-valent CrO2 (which was soon proved to exist by other authors). The work was published in Nature3 and in J. Chem. Soc.4, and was a great moral support for the author in the first years of his research. In 1954 the author developed a method for the detn. of traces of **mercury** in the atm. and in the **biol. material**, based on the catalytic action of mercuric ions on the rate of formation of the violet complex, [Fe(CN)5(C6H5NO)]3-, form hexacyanoferrate(II) and nitrosobenzene. In 1954-55 the author was post-doctoral fellow at the Univ. College London, doing research with Sir Christopher In gold on mechanism and stereochem. of octahedral substitutions. The results obtained, studying replacements of ligands electron donors and electron absorbers on ethylenediamine complexes of cobalt(III), contributed to the understanding of mechanism and stereochem. of the octahedral substitutions in general, prompting new research in the field. This helped to realize that the octahedral substitutions on **metal** complexes are basically dissociative in nature. The author proceeded with postdoctoral research at the University of Rochester, Rochester, N.Y. (1955-57). In collaboration with Professor William H. Saunders and D.H. Edison, they discovered the secondary .alpha.-deuterium kinetic isotope effect (the same year, 1957, this effect was also independently obsd. by A. Streitwieser and V. Prelog, and their collaborators). The effect proved to be very important in solving org. reaction mechanisms. Saunders and Asperges also found that the formolysis (and partly acetolysis) of 2-phenylethyl p-toluenesulfonate proceeds over the sym., nonclassical, phenonium ion, which follows from the fact that in the reaction product, formate, deuterium is roughly equally distributed in .alpha.- and .beta.-positions, regardless of whether the starting position of deuterium was .alpha. or .beta.. In this way they gave support to the earlier claim put forward by S. Winstein and R. Heck in 1956, and S. Winstein, C.R. Lindegren, H. Marshal, and L.L. In graham in 1953 that the formolysis of 2-phenylethyl-p-toluenesulfonate proceeds predominantly by Ph participation. Using mass-spectrometry Saunders and the author detd. the kinetic isotope effect of sulfur-34 in the sN1 **decompn**. of tert-butyldimethylsulfonium iodide in water as 1.8%, which is roughly the max. isotope effect for breaking the C-S bond. The author applied the secondary .alpha.-deuterium kinetic isotope effect in the study of inorg. reaction mechanisms, esp. in the chem. of ferrocenes. He could show that the formolysis and acetolysis of dideuterio ferrocenylmethyl benzoate proceeds by a dissocn. mechanism, in which iron does not form a bond with the .alpha.-carbon in the transition state, but the ferrocenyl Me carbocation is stabilized by conjugation with .pi. system of the pentadienyl ring. Such structure of the transition state causes one of the largest .alpha.-deuterium kinetic isotope effects found in breaking the carbon-oxygen bond [up to 25.0% per one D atom, at 25.degree.C (geometric mean)]. The author showed that the complex [CoIII(protoporphyrin IX di-Me ester)(MeO)(MeOH)], which he prepd. for the first time, the coordinated methanol can be replaced, in methanolic soln., by amine ligands of the pyridine and imidazole type. The author could change the basicity of these ligands by introducing electron donor or electron acceptor groups in the pyridine and imidazole rings, resp. He found that the methoxide group, a very good electron donor, strongly increases the electron d. in the trans axial position, the [CoIII(PP)(MeO)] intermediate favoring therefore the entry of the least basic amine ligand, not the most basic as usually obsd. It could be concluded that "orienting" methoxide ligand promotes **metal** to ligand .pi.-bonding, while electron withdrawing orienting ligands, such as

cyanide, favor .sigma.-bonding. Therefore the weakly basic ligands, such as 4CN-pyridine and 3CN-pyridine (pKa.apprxeq.1) enter the complex relatively fast, being bonded predominantly by **metal** to ligand .pi.-bonding, while strongly basic entering ligands, such as 4NH2-pyridine and 4(Mc)2N-pyridine (pKa .apprxeq. 9.5) are mainly bonded by .sigma.-bonding, and enter the complex also quite fast. The medium basic entering ligands, with pKa about 5.5 (pyridine, and 4(Mc)2N-pyridine (pKa .apprxeq. 9,5) are mainly bonded by .sigma.-bonding, and enter the complex also quite fast. The medium basic entering ligands, with pKa about 5.5 (pyridine, 4Me-pyridine, 4Et-pyridine) are the slowest entering ligands. The plot of ln kobs vs pKa of pyridine and its derivs. exhibits a min. rate at pKa of about 5.5. The "V" diagram is due to the predominantly .pi.-bonding (descending branch), and the predominantly .sigma.-bonding (ascending branch). In this way it was possible to est. the importance of both modes of bonding: the role of .pi.-bonding appears to be of much greater importance than was previously thought. The author founded the Lab. for Chem. Kinetics at the Rudjer Boskovic Institute (1958), which is still active under the name Lab. for Chem. Kinetics and Atm. Chem. He also organized the first chem. graduate course in Croatia entitled "Phys. Methods in Chem.", which started in Nov. 1961 at Faculty of Pharmacy and Biochem., University of Zagreb. In 1971 the course was incorporated in the University graduate course as one of its directions. Professors of several departments of chem. of the University of Zagreb and of the Rudjer Boskovic institute took part in teaching. The author also organized the graduate chem. teaching at the Tech. Faculty in Split. The author supervised 28 MSc theses and 17 PhD theses. He has published about 100 papers, predominantly in leading English and American scientific journals, including several author's review articles, as well as a monograph: Kemijska kinetika i anorganski reakcijski mehanizmi. ("Chem. kinetics and inorg. reaction mechanisms"), Croatian Academy of Sciences and Arts, Zagreb 1999, pp 352. He was also one of the team of five who translated the German textbook Egon Wib erg, Lehrbuch der anorganischen Chemie, W. de Gruyter, Berlin 1964; Croatian translation, Skolska kniiga, Zagreb, 1967, pp 854.

L14 ANSWER 8 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:245660 HCAPLUS
DOCUMENT NUMBER: 133:32480
TITLE: Determination of **mercury** in crude oil by in-situ thermal decomposition using a simple lab built system
AUTHOR(S): Liang, Lian; Lazoff, S.; Horvat, M.; Swain, E.; Gilkeson, J.
CORPORATE SOURCE: Cebam Analytical, Inc., Seattle, WA, 98103, USA
SOURCE: Fresenius' Journal of Analytical Chemistry (2000), 367(1), 8-11
CODEN: FJACES; ISSN: 0937-0633
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A simple system based on thermal **decompn.** for the one step detn. of **mercury** has been built. This system was applied to the anal. of crude oil and related products. Samples were directly introduced into the system without the use of chems. and digestion procedures. After 4 min, matrixes and **mercury** compds. were decompd., and elemental **mercury** was collected on a gold sand trap, and then **detected** by at. fluorescence spectroscopy (AFS). In principle, any sample can be analyzed by this method provided the sample can be

introduced into the system quant. The method **detection** limit was approx. 0.2 ng/g for 0.04 g of crude oil introduced to the system. Various other samples including, **biol.**, environmental, and general merchandise have been analyzed. Results obtained have been compared with established traditional methods including radiochem. neutron activation anal. (RNAA). Good agreement of results between methods was found. Recoveries were close to 100% for certified ref. **materials**. Results were independent of **mercury** species and sample types.

IT **7439-97-6, Mercury,** analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of **mercury** in crude oil by in-situ thermal decompn. using simple lab built system)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 9 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:191336 HCAPLUS
DOCUMENT NUMBER: 132:218271
TITLE: **Composite devices** incorporating **biological material** and methods
INVENTOR(S): Lyngberg, Olav K.; Flickinger, Michael C.; Scriven, L. E. Edward, II; Anderson, Ron
PATENT ASSIGNEE(S): Regents of the University of Minnesota, USA
SOURCE: PCT Int. Appl., 57 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000016098	A1	20000323	WO 1999-US21581	19990917
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9961524	A1	20000403	AU 1999-61524	19990917
EP 1114319	A1	20010711	EP 1999-948317	19990917
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1998-100914P P 19980917
WO 1999-US21581 W 19990917

AB The present invention provides **composite biol. devices** that include **biol. material** as an integral component thereof. The **devices** can be used for **measuring metals**, for example, particularly toxic **metals** such as **mercury**.

IT **7439-97-6, Mercury,** analysis **7439-97-6D, Mercury,** Me compds., analysis
RL: ANT (Analyte); ANST (Analytical study)
(**composite devices** incorporating **biol. material** and method for toxic metal detn.)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 10 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:29275 HCAPLUS
DOCUMENT NUMBER: 132:54432
TITLE: Protozoa in polluted water biomonitoring
AUTHOR(S): Pratt, J. R.; Bowers, N. J.
CORPORATE SOURCE: Environmental Sciences and Resources, Portland State University, Portland, OR, 97207, USA
SOURCE: Environmental Research Forum (2000), 9(Biomonitoring of Polluted Water), 141-160
CODEN: ERFOFX; ISSN: 1421-0274
PUBLISHER: Trans Tech Publications Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Protozoa respond rapidly to changing environmental conditions, making them useful in the assessment of ongoing pollution of waters. Since many protozoa are cosmopolitan, understanding their indicator value may have broad applicability to many ecosystems. Three approaches to the use of protozoa in **biol**. monitoring dominate. The 1st, and oldest, is the use of the indicator species approach based on the tolerance of select species to polluted waters, typically waters polluted by O demanding wastes. The indicator species approach can provide appropriate evidence of traditional, sewage-based water pollution, but indicators of org. pollution may not indicate pollution by toxic **materials** or phys. alterations such as increased temp. The indicator approach relies on species-level taxonomic precision. Other approaches are less taxonomically precise because they depend on changing patterns of community **compn**. and may not require the same level of taxonomic identification. Such approaches focus on **detecting** changes in community **compn**. or, more commonly, redns. in the total no. of extant taxa as a **measure** of stress. Similarly, nontaxonomic community **measures** of biomass or **metabolic activity** can also be useful in assessing pollution effects. The use of protozoa as rapid toxicity indicators is also appropriate for evaluating possible water pollution effects. Rapid tests are suitably sensitive and focus on population growth and other responses of particular test species to evaluate pollution effects. Overall, protozoa can quickly provide valuable information on the status of a water body suspected of being polluted. Further research is needed to more fully account for species differences among aquatic habitats and to fully assess tolerance of particular indicators. The time over which changes occur and can be made **detectable** is of importance. Since protozoa are sensitive to water pollution, they can also be used to est. recovery from water pollution and other human-influenced changes in streams and rivers.
REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 11 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:741626 HCAPLUS
DOCUMENT NUMBER: 131:359668
TITLE: Simultaneous calibrationless determination of zinc, cadmium, lead, and copper by flow-through stripping chronopotentiometry
AUTHOR(S): Beinrohr, Ernest; Cakrt, M.; Dzurov, J.; Jurica, L.; Broekaert, J. A. C.
CORPORATE SOURCE: Dep. Analytical Chemistry, Slovak Technical Univ.,

Bratislava, SL-81237, Slovakia
SOURCE: Electroanalysis (1999), 11(15), 1137-1144
CODEN: ELANEU; ISSN: 1040-0397
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Zn, Cd, Pb, and Cu are deposited in a porous flow-through electrode plated with Hg and then are stripped by const. current while the stripping time is **measured**. Since complete electrochem. deposition can be achieved, the analyte concns. can be directly obtained from Faraday's laws i.e., the method is denoted as calibrationless. The influence of the deposition potential, stripping current, carrier electrolyte **compn**., Cu content, and sample matrix was investigated. The optimum conditions are: deposition potential: -1600 mV, stripping current: 200.mu.A, carrier electrolyte: 0.1 mol/L Na2SO4 at pH 4-5. The dynamic range of the method is from about 0.1 ng/mL to few mg/mL. The reliability of the method is 1-2% in the optimum concn. range. The procedure was applied to the analyses of water samples, geol., and **biol. materials**.

IT **7439-97-6, Mercury**, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(calibrationless detn. of Zn, Cd, Pb, and Cu by flow-through stripping chronopotentiometry using)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 12 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:732686 HCAPLUS
DOCUMENT NUMBER: 132:82432
TITLE: Biogenic and chemical sulfuric acid corrosion of mortars
AUTHOR(S): Ehrich, Silke; Helard, Laure; Letourneux, Roger; Willocq, Jaques; Bock, Eberhard
CORPORATE SOURCE: Dept. of Microbiology, Inst. of General Botany, Hamburg, 22609, Germany
SOURCE: Journal of Materials in Civil Engineering (1999), 11(4), 340-344
CODEN: JMCEE7; ISSN: 0899-1561
PUBLISHER: American Society of Civil Engineers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The biogenic corrosion of mortars by sulfuric acid-producing bacteria was simulated in a controlled breeding chamber. Calcium aluminate cement (CAC) as well as portland and blended portland cement mortars were tested. Growth conditions for bacteria were optimized in a way that accelerated the naturally occurring corrosion (worst case) by a factor of at least 24. After 12 mo of incubation in the chamber the samples being tested could be clearly classified according to their resistance properties. CAC mortars were found to resist **microbiol**. induced corrosion significantly better than portland and blended portland cement mortars. **Measurement** of the amt. of biogenic sulfuric acid on CAC and portland and blended portland cement mortars demonstrated a higher amt. of acid on the latter. The more effective resistance of CAC mortars was explained by the higher neutralization capacity due to their chem. **compn**. and the smaller prodn. of biogenic acid. Chem. immersion tests in sulfuric acid at pH 2 also revealed better resistance properties for the CAC mortars. But the mortars could not be distinguished as well as in the **biol**. test because the samples were all exposed to the

same concn. of acid. It is concluded that predictions concerning the long-term behavior of mortars used in sewerage networks are only reliable on the basis of the biogenic simulation expt. because the different **metabolic activities** of sulfuric acid-producing bacteria inhabiting different **materials** should be taken into account. Chem. corrosion tests tended to overestimate the resistance properties of portland and blast furnace cement mortars.

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 13 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:686920 HCAPLUS
DOCUMENT NUMBER: 131:326526
TITLE: Requirements on immission protection by mechanical-biological waste treatment based on emission of dusts, inorganic and organic materials
AUTHOR(S): Doedens, Heiko; Cuhls, Carsten; Collins, Hans-Jurgen; Fricke, Klaus
CORPORATE SOURCE: Inst. Siedlungswasserwirtschaft Abfalltechnik, Univ. Hannover, Hannover, D-30167, Germany
SOURCE: Muell und Abfall (1999), 31(10), 588-595
CODEN: MUABD8; ISSN: 0027-2957
PUBLISHER: Erich Schmidt Verlag GmbH & Co.
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Air pollutant release data from mech.-biol. waste pretreatment plants such as dusts, **metals**, org. substances, and NH3 are discussed and requirements to air pollution control **measures** at mech.-biol. plants are suggested. The 1st phase of mech.-biol. pretreatment must be carried out in a closed room with waste air capture and purifn. to remove .gtoreq.90% of the org. contaminant load. Limit values for the clean gas concns. of dust (.ltoreq.10 mg/m3 as diurnal av.) and non-methane volatile org. compds. (.ltoreq.80 mg total C/m3 as diurnal av.) are suggested. The liberation of CH4 can be influenced by process control **measures** (aeration, irrigation) only.
IT **7439-97-6, Mercury**, occurrence
RL: POL (Pollutant); OCCU (Occurrence)
(requirements on immission protection by mech.-biol. waste treatment based on emission of dusts, inorg. and org. materials)
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 14 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:400802 HCAPLUS
DOCUMENT NUMBER: 131:106358
TITLE: The distribution and speciation of **mercury** in the South and equatorial Atlantic
AUTHOR(S): Mason, R. P.; Sullivan, K. A.
CORPORATE SOURCE: Center for Environmental Science, Chesapeake Biological Laboratory, University of Maryland, Solomons, MD, 20688-0038, USA
SOURCE: Deep-Sea Research, Part II: Topical Studies in Oceanography (1999), 46(5), 937-956
CODEN: DSROEK; ISSN: 0967-0645
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Mercury** concn. and speciation were **measured** in surface

and deep ocean waters of the South and equatorial Atlantic Ocean. In the surface waters, total Hg was 2.9 .+-.1.7 pM on av., with a significant fraction present as reactive Hg (1.7 .+-.1.2 pM). The reactive Hg fraction consisted of elemental Hg (Hg.degree.) as the dominant species (1.2 .+-.0.8 pM). **Measurements** in surface waters also showed that Hg partitioned to the "colloidal" phase (0.33 .+-.0.28 pM) and was assocd. with particulate matter (0.1 .+-.0.05 pM). No dimethylmercury (DMHg; <0.01 pM) or monomethylmercury (MMHg; <0.05 pM) was **detected** in mixed layer samples. The highest DMHg concns. were found in recently formed deep waters: Antarctic Intermediate Water and Antarctic Bottom Water and in the equatorial sub-thermocline region. Higher concns. of DMHg coincided with higher values of apparent oxygen utilization, indicative of a link between microbial activity and methylated Hg prodn. The lowest-deep water DMHg concns. were found in the core of the North Atlantic Deep Water. Incubation expts. on-board demonstrated that light enhanced the **decompn**. of DMHg, with MMHg as the major product. In deep waters, Hg.degree. was still an important constituent and is likely formed as a **decompn**. product from MMHg. These results suggest that methylated Hg prodn. occurs primarily in regions of high **biol**. activity, and that ionic Hg is strongly complexed to org. matter (colloidal **material**) in open ocean surface waters.

IT **7439-97-6, Mercury**, occurrence
RL: POL (Pollutant); OCCU (Occurrence)
(distribution and speciation of **mercury** in the South and equatorial Atlantic Ocean)

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 15 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:391063 HCAPLUS
DOCUMENT NUMBER: 131:181835
TITLE: Decomposition of fish samples for determination of **mercury**
AUTHOR(S): Prester, Ljerka; Juresa, Diana; Blanusa, Maja
CORPORATE SOURCE: Institute for Medical Research and Occupational Health, Zagreb, Croatia
SOURCE: Arhiv za Higijenu Rada i Toksikologiju (1998), 49(4), 343-348
CODEN: AHRTAN; ISSN: 0004-1254
PUBLISHER: Institute for Medical Research and Occupational Health
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The aim of the study was to compare the efficiency of acid and alk. **decompn**. of **biol**. **materials** using an open and a closed system for total Hg detn. Acid digestion was performed with concd. HNO3 in tubes at 80.degree. and lasted five hours. Alk. digestion was performed with a 45% NaOH and a 1% cysteine, heated at 120.degree. for 20 min. Total Hg was **measured** by at. absorption spectrometry using the cold vapor technique (CVAAS). The av. recovery obtained for anal. of certified ref. **material** in closed tubes for acid digested sample was superior to the alk. one, 1034% vs. 703%, resp. The recoveries through the open system acid digestion (90+8%) and the open system alk. digestion (572%) were lower than through the resp. closed system digestions. Reproducibility of the acid **decompn**. method was superior to the alk. one.

IT **7439-97-6, Mercury**, analysis
RL: ANT (Analyte); ANST (Analytical study)

(decompn. of fish samples for detn. of **mercury** by at. absorption spectrometry)
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 16 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:264734 HCAPLUS
DOCUMENT NUMBER: 129:67305
TITLE: In situ microbial ecology for quantitative appraisal, monitoring, and risk assessment of pollution remediation in soils, the subsurface, the rhizosphere and in biofilms
AUTHOR(S): White, David C.; Flemming, Cecily A.; Leung, Kam T.; Macnaughton, Sarah J.
CORPORATE SOURCE: Center for Environmental Biotechnology, The University of Tennessee, Knoxville, TN, 37932-2575, USA
SOURCE: Journal of Microbiological Methods (1998), 32(2), 93-105
CODEN: JMIMDQ; ISSN: 0167-7012
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Numerous studies have established a relationship between soil, sediment, surface biofilm and subsurface contaminant pollution and a marked impact on the in situ microbial community in both microcosms and in the field. The impact of pollution on the in situ microbial community can now be quant. **measured** by mol. 'fingerprinting' using 'signature' biomarkers. Such mol. fingerprinting methods can replace classical **microbiol**. techniques that relied on isolation and subsequent growth of specific microbes from the in situ microbial community. Classical methods often revealed less than 1% of the extant microbial communities. Mol. fingerprinting provides a quant. **measure** of the in situ viable microbial biomass, community **compn**., nutritional status, relative frequency of specific functional genes, nucleic acid polymers of specific microbes, and, in some cases, the community **metabolic activity** can be inferred. Current research is directed at establishing correlations between contaminant disappearance, diminution in toxicity, and the return of the viable biomass, community **compn**., nutritional status, gene patterns of the in situ microbial community towards that of the uncontaminated soil, sediment or subsurface **material** with the original uncontaminated microniche environments. Compared to the current reliance on disappearance of pollutants and assocd. potentially toxic products for **detection** of effective and quant. bioremediation, assessment of the in situ microbial community will be an addnl. and possibly more convincing risk assessment tool. The living community tends to accumulate and replicate toxic insults through multiple interactions within the community, which may then effect viable biomass, community **compn**., nutritional status, community **metabolic activities**, and specific nucleic acid polymer patterns.

L14 ANSWER 17 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:217240 HCAPLUS
DOCUMENT NUMBER: 128:289429
TITLE: Recent developments in biological and environmental reference materials in Japan
AUTHOR(S): Okamoto, K.
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, University of

Tokushima, Tokushima, Japan
SOURCE: Harmonization of Health Related Environmental Measurements Using Nuclear and Isotopic Techniques, Proceedings of an International Symposium, Hyderabad, India, Nov. 4-7, 1996 (1997), Meeting Date 1996, 145-155. International Atomic Energy Agency: Vienna, Austria.
CODEN: 65USAR
DOCUMENT TYPE: Conference
LANGUAGE: English
AB **Biol.** ref. **materials** (root-mean-square) for elemental speciation were prepd. at the National Institute for Environmental Studies. A new human hair RM, prepd. by cryogenic grinding using a ceramic disk mill, is certified for methylmercury, total Hg, Cd, Cu, Pb, Sb, Se and Zn, together with ref. values for Al, Ag, As, Ba, Ca, Co, Fe, Mg, Mn, Na, S and V. Hijiki Seaweed RM was prepd. for As speciation, particularly for use in the anal. of As(V). Scallop tissue RM will be certified for arsenobetaine. At the Meteorol. Research Institute, a fallout RM for radioactivity **measurements** was prepd. by using deposition samples collected at 14 stations throughout Japan between 1963 and 1979. The fallout RM has an averaged **compn.** of the fallout radioactivity in Japan during the period. A recommended value is given for 137Cs activity, as well as information values for 90Sr and Pu isotopes. The Japan Society for Anal. Chem. has recently issued the certified ref. **material** (CRM) River H2O for ultratrace element anal. of fresh H2O. This CRM consists of a set of two bottles: natural and spiked waters. The natural H2O is certified for sub-ppb levels of Pb, Cr, As, Cu, Fe, Mn, Zn, B and Al, while the spiked H2O is intended for use in the regulatory anal. of tap H2O and fresh H2O.
IT **7439-97-6, Mercury,** analysis
RL: ANT (Analyte); ANST (Analytical study)
(human hair ref. materials in Japan certified for)

L14 ANSWER 18 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:762545 HCAPLUS
DOCUMENT NUMBER: 126:94284
TITLE: Sedimentary organic matter and micro-meiobenthos with relation to trophic conditions in the tropical northeast Atlantic
AUTHOR(S): Relexans, J. C.; Deming, J.; Dinet, A.; Gaillard, J. F.; Sibuet, M.
CORPORATE SOURCE: Laboratoire d'Oceanographie biologique, Universite Bordeaux 1, CNRS-URA 197, Fr.
SOURCE: Deep-Sea Research, Part I: Oceanographic Research Papers (1996), 43(8), 1343-1368
CODEN: DRORE7; ISSN: 0967-0637
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The **biol.** and chem. characteristics of sediments sampled during the EUMELI cruise in the tropical northeast Atlantic are presented. These sediments are representative of three different trophic conditions prevailing in surface waters off the Mauritanian coast: EUtrophic, MEsotrophic and oLIgotrophic. The benthic response to surface primary prodn., considered as the main supply of biogenic **material** to the sea floor, was evaluated through the qual. and quant. anal. of (i) the **compn.** of the sedimentary org. matter, (ii) the biomass of the micro- and meiobenthos; and (iii) the benthic **metabolic**

activity. The bacterial biomass (17.5 .mu.gcm-2 at the oligotrophic site and 64.5 .mu.gcm-2 at the mesotrophic site) the meiofauna biomass (1.12, 4.34, and 9.63 .mu.gcm-2 at the oligo-, meso- and eutrophic sites, resp.), the respiratory potential (ETS) and the utilization of labeled amino acids by heterotrophic microbenthos different sites are reduced in comparison to the carbon fluxes **measured** or estd. at the sediment- water interface. Sedimentary org. carbon and biopolymer anal. show still further reduced variations between the three environments. To better distinguish the three different oceanog. provinces, it is more suitable to integrate the various properties investigated over depth in sediment than to consider surficial characteristics. We conclude from our multi-parameter approach that micro-meiobenthos may be more efficient utilizers of the vertical carbon supply than their counterparts in rich shallower zones.

L14 ANSWER 19 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:131402 HCAPLUS
DOCUMENT NUMBER: 124:225689
TITLE: The design of culture media based on the elemental composition of biological material
AUTHOR(S): Spaargaren, Dirk H.
CORPORATE SOURCE: Netherlands Institute for Sea Research, P.O. Box 59, AB Den Burg, Texel, 1790, Neth.
SOURCE: Journal of Biotechnology (1996), 45(2), 97-102
CODEN: JBITD4; ISSN: 0168-1656
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB During growth, living organisms absorb chem. elements from their environment in ratios as they occur in their tissues. In lower organisms (microorganisms, plants), as well as in animal cell and tissue culture, the elements are absorbed as small mols. or as free ions, potentially affecting the relative ionic compn. of their medium. To avoid these changes in the medium compn., the elements in culture media should be available in the same ratios as in which they occur in biol. material. This paper shows how, by using linear programming algorithms, culture media can be designed which approx. the av. elemental compn. of biol. material. By mixing inorg. salts a culture medium can be prepd. contg. most of the major elements almost exactly in the ratios in which they occur in living material. Although certain deviations have to be allowed for the three most abundant elements (O, C, H), these can be justified by assuming that these elements will normally not act as limiting factors, as in an open system they can be supplemented by water and carbon dioxide from the air. With the addn. of an org. compd., e.g., glucose, the av. elementary compn. of biol. material can even be matched exactly.

L14 ANSWER 20 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:975806 HCAPLUS
DOCUMENT NUMBER: 124:78824
TITLE: Anodic stripping voltammetric determination of total lead in anencephalic fetuses after pressure/temperature-controlled microwave mineralization
AUTHOR(S): Tahan, Jorge E.; Marcano, Lorenia; Romero, Romer A.
CORPORATE SOURCE: Laboratorio de Instrumentacion Analitica, Departamento de Quimica, Facultad Experimental de Ciencias, La Universidad del Zulia, Apartado Postal 15202, Las Delicias, Maracaibo 4003-A, Venez.

SOURCE: Analytica Chimica Acta (1995), 317(1-3), 311-18
CODEN: ACACAM; ISSN: 0003-2670
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The development of a closed-vessel mineralization method for the **decompn.** of brain, liver, kidney and lung specimens of anencephalic (A) fetuses and controls (C) from the eastern coast of lake Maracaibo, Venezuela, is presented. Digestion was done in a lab. microwave oven provided with pressure sensing tube and fiberoptic temp. probe to monitor and control pressure and temp. conditions inside the lined digestion vessels. Total lead was subsequently detd. by differential pulse anodic stripping voltammetry (DPASV) with a hanging **mercury** drop electrode. The optimized conditions for maximal pressure and temp. set up were 1260 kPa and 190.degree.C. Three samples and one blank were routinely prepd. for simultaneous digestion. After sample mineralization, the lead oxidn. peak appeared at a potential of -0.45 V vs. Ag/AgCl, pH 4.70. Lead concns. obtained by DPASV anal. of the mineralized **biol. materials** were compared with those provided by electrothermal atomization at. absorption spectrometry (ETA-AAS) on the same digestion samples. The correlation between the two methods was excellent: y = 1.142 x-0.0035, r = 0.9999, n = 40, p<0.001, where y and x were the lead concns. detd. by DPASV and ETA-AAS, resp. For the DPASV detn. of total lead, precision (R.S.D.) was better than 3.8%, for within- and between-run analyses. The **detection** limit of the electrochem. method, defined as three times the std. deviation of a blank soln., was 0.03 .mu.g Pb g-1 (in solid sample), equiv. to 0.1 .mu.g Pb L-1 in the dild. test portions. The dry-wt. **metal** concns. (.+-. 1 S.D., .mu.g g-1) found in brain, liver, kidney and lung were as follows: brain, **undetectable** in A and in C; liver, 2.1.+-.1.1 in A, 0.5.+-.0.2 in C; right lung, 1.1.+-.0.8 in A, 0.6.+-.0.1 in C; left lung, 0.6.+-.0.2 in A, 0.7.+-.0.1 in C; right kidney, 1.4.+-.0.7 in A, 1.5.+-.0.03 in C and left kidney, 1.7.+-.0.9 in A, 0.7.+-.0.2 in C. The proposed DPASV method constitutes an anal. alternative, as reliable as ETA-AAS, for the voltammetric detn. of total lead in solid samples.

L14 ANSWER 21 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:597774 HCAPLUS
DOCUMENT NUMBER: 123:4949
TITLE: Adsorptive stripping voltammetric determination of ultratrace concentrations of molybdenum in biological and environmental materials on a glassy carbon **mercury** film electrode
AUTHOR(S): Adeloju, Samuel B. O.; Pablo, Fleurdelis
CORPORATE SOURCE: Dept. Chem., Univ. Western Sydney, Nepean, 2747, Australia
SOURCE: Electroanalysis (1995), 7(5), 476-82
CODEN: ELANEU; ISSN: 1040-0397
PUBLISHER: VCH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The title method involves controlled preconcn. of the element Mo(VI) by interfacial accumulation as molybdenum-8-hydroxyquinoline (oxine) complex on the electrode followed by a cathodic stripping voltammetric **measurement**. The optimum anal. conditions for the **measurement** of molybdenum by this method include the use of 0.20 M acetate buffer at pH 5.25, 1 mM oxine, an accumulation potential of -0.40 V (vs. Ag/AgCl) and a rotated electrode at 3000 rpm. Under these

conditions, the linear concn. range and lowest **detectable** concn. obtained with a 5-min accumulation were 0-300 .mu.g L-1 (R2 = 0.997) and 0.5 .mu.g L-1 [relative std. deviation (RSD) = 13.7%], resp. The presence of most other **metal** ions does not interfere with molybdenum detn., except for PbII and CdII which were successfully masked by addn. of 3 .mu.M EDTA, and TiIV and WVI which were masked by 1 .mu.M tartaric acid. The interference of surface-active substances, such as Triton X-100, is overcome by UV irradn. of the sample. The use of the adsorptive stripping voltammetric technique, after **decompn**. by dry ashing and UV treatment, is successfully demonstrated for the detn. of molybdenum in **biol**. and environmental **materials**, such as plant and animal tissue ref. **materials**.

L14 ANSWER 22 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:691527 HCAPLUS
DOCUMENT NUMBER: 121:291527
TITLE: Cathodic stripping potentiometric determination of selenium in biological and environmental materials
AUTHOR(S): Adeloju, S. B.; Young, T. M.
CORPORATE SOURCE: Centre for Electrochemical Research and Analytical Technology, Department of Chemistry, University of Western Sydney, Nepean, P.O. Box 10, Kingswood, Australia
SOURCE: Analytica Chimica Acta (1994), 296(1), 69-76
CODEN: ACACAM; ISSN: 0003-2670
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The use of cathodic stripping potentiometry for the reliable detn. of trace and ultra trace concns. of selenium in environmental and **biol**. samples on a glassy carbon **mercury** film electrode is described. The optimum conditions for the method include 3 M HCl as supporting electrolyte, an electrolysis potential of -100 mV vs. SCE, a const. redn. current of -20 .mu.A and the **decompn**. of the samples by dry ashing with magnesium nitrate as an ashing aid. Under these conditions, the **detection** limit is 0.8 .mu.g/L with an electrolysis time of 5 min or 0.04 .mu.g/L with 60 min deposition. The relative std. deviation for the **measurement** at this level is 6% (n = 7). The presence of inorg. and org. substances such as lead, copper, cadmium, zinc, CTMAB, LAS, LPC and Triton X-100 caused some suppression of the selenium peak, but these effects were easily circumvented using std. addns. method and a UV-irradn. procedure. The UV-irradn. of the digested environmental and **biol**. **materials** was also effective in reducing the required dry ashing period to 1 h, as well as in improving the sensitivity and accuracy of the method.

L14 ANSWER 23 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:644781 HCAPLUS
DOCUMENT NUMBER: 119:244781
TITLE: Mineralization of biological materials prior to determination of total **mercury** by cold vapor atomic absorption spectrometry
AUTHOR(S): Tahan, Jorge E.; Granadillo, Victor A.; Sanchez, Jose M.; Cubillan, Hernan S.; Romero, Romer A.
CORPORATE SOURCE: Fac. Exp. Cienc., La Univ. Zulia, Maracaibo, Venez.
SOURCE: Journal of Analytical Atomic Spectrometry (1993), 8(7), 1003-10
CODEN: JASPE2; ISSN: 0267-9477
DOCUMENT TYPE: Journal

LANGUAGE: English

AB Mineralization procedures performed in Parr digestion bombs heated by either convection or microwave irradn. were used for acid **decompn**. of human whole blood and urine, lyophilized tuna and pond sediment samples. These alternative procedures were tested for their suitability to permit subsequent detn. of total **mercury** by cold vapor at. absorption spectrometry (CVAAS). No significant differences ($p > 0.001$) were obsd.; $y = 1.001x-0339$, $r = 0.983$ and $n = 32$, where y and x are the **mercury** concns. in samples decompd. by convection and microwave heating, resp. The **detection** limit (2.sigma.) was 53 ng l-1, which corresponds to 159 pg of Hg for 3 mL of soln. undergoing anal. For 80 mg of **biol. material**, mineralized and dild. to produce 10 mL of soln., the **detection** limit was 6.6 ng g-1 of Hg in the original solid samples. Accuracy was verified by analyzing National Institute of Stds. and Technol. (NIST) Ref. **Material** RM 50 Albacore Tuna; Control Blood for **Metals** 1 (OSSD 20/21 from the Behring Institute); Heavy-**metal** Urine Control (Contox No. 0140 Level II from Kaulson Labs.) and National Institute for Environmental Studies (NIES) No. 2 Pond Sediment ref. **material**. An RSD of 3.7% was found for both the within- and between-run precisions. The convection-heating digestion required a considerable time, about 12 h (including two 4 h cooling intervals); nevertheless, the method can be recommended for processing a large no. of samples. Microwave mineralization was much faster (.apprxeq.70 s). The proposed mineralization procedures, combined with CVAAS, were used to establish the **mercury** levels (mean .+-. 1 SD) in whole blood (11.2 .+-. 7.8 .mu.g l-1) and urine (9.2 .+-. 3.6 .mu.g l-1) of 35 healthy adults of Maracaibo City who had not been occupationally exposed to **mercury**, and in whole blood (20.8 .+-. 7.9 .mu.g l-1) and urine (19.7 .+-. 7.5 .mu.g l-1) of 35 occupationally exposed subjects. The com. tuna analyzed showed a **mercury** concn. of 1.45 .+-. 0.09 .mu.g g-1. The destruction of the org. matter was efficiently achieved by using both mineralization procedures, to a point where the analyte element was liberated from its chem. bonding and total **mercury** quantification was reliably accomplished by CVAAS.

IT **7439-97-6, Mercury**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in biol. materials, mineralization method for cold vapor at. absorption spectrometry in)

L14 ANSWER 24 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:622463 HCAPLUS
DOCUMENT NUMBER: 115:222463
TITLE: Capillary column gas chromatography for **mercury** speciation
AUTHOR(S): Bulska, E.; Baxter, D. C.; Frech, W.
CORPORATE SOURCE: Dep. Anal. Chem., Univ. Umea, Umea, S-901 87, Swed.
SOURCE: Analytica Chimica Acta (1991), 249(2), 545-54
CODEN: ACACAM; ISSN: 0003-2670
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The detn. of methyl- and ethylmercury halides in environmental and **biol**. samples typically involves gas chromatog. with electron-capture **detection**. However, these organomercury halides are notorious for their poor chromatog. characteristics (severe tailing, **decompn**., low column efficiencies) on packed columns. The problems can be temporarily alleviated by column passivation using a concd. org. soln. of **mercury**(II) chloride. Attempts to use

capillary columns instead, to improve the chromatog. behavior of organomercury halides, have met with mixed success, and the results presented generally show poorer performance than that obtained using packed columns, even after passivation. To eliminate the problem at its source (the polar **mercury**-halide bond), it is proposed to butylate the **mercury** species with a Grignard reagent to yield the nonpolar dialkyl derivs. As the electron-capturing halide moiety is absent from these derivs., **mercury**-specific **detection** is necessary, and a microwave-induced plasma emission **detector** is utilized. In combination with capillary gas chromatog., unprecedented column and sepn. efficiencies for methyl- and ethylmercury are achieved. The practical utility of the method is illustrated in a preliminary application to the detn. of **mercury** species in a fish tissue ref. **material** after extn. and butylation.

IT **7439-97-6D, Mercury**, org. compds.
RL: ANST (Analytical study); PROC (Process)
(speciation of, by butylation and capillary gas chromatog. using microwave-induced plasma emission detection)

L14 ANSWER 25 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:587637 HCAPLUS
DOCUMENT NUMBER: 113:187637
TITLE: Diagnostic kit and method for enzyme immunoassay of human chorionic gonadotropin in urine
INVENTOR(S): Warren, Harold Chester, III; Norkus, Norbert Sarunas; Smith-Lewis, Margaret J.
PATENT ASSIGNEE(S): Eastman Kodak Co., USA
SOURCE: Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 379347	A2	19900725	EP 1990-300467	19900117
EP 379347	A3	19920408		
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, LU, NL, SE				
CA 2005511	AA	19900717	CA 1989-2005511	19891214
JP 02231566	A2	19900913	JP 1990-6070	19900112

PRIORITY APPLN. INFO.: US 1989-298099 19890117

AB EIA of a ligand in a **biol**. fluid, particularly of human chorionic gonadotropin (hCG) in urine as an early indication of pregnancy, uses an aq. reagent **compn**. of pH 7-9 contg. an enzyme-labeled receptor to a ligand of interest and a 0.1-1.0 M org. buffer of pKa 5-7 (at 25.degree.). This **compn**. can be combined with a **compn**. which provides a dye in the presence of the enzyme and an appropriate substrate in a diagnostic test kit useful for ligand detn. Such detn. includes contacting a specimen contg. the ligand with the reagent **compn**. to form an immunol. complex, sepg. the complex from other **materials**, and **detecting** either the complex or the uncomplexed enzyme-labeled receptor. Urine hCG was detd. by complexing the specimen in this aq. reagent **compn**. with enzyme-labeled monoclonal antibodies to hCG and with biotinylated antibodies immobilized on styrene **latex** particles. The complex was sepd. from uncomplexed **materials** by a disposable test **device** contg. a microporous membrane. After addn. of leuco dye

soln., the color formed on each membrane was evaluated. This method gave better sensitivity with low background after storage .gtoreq.2 wk than did a similar method using a **device** contg. immobilized buffer.

L14 ANSWER 26 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:104950 HCAPLUS
DOCUMENT NUMBER: 112:104950
TITLE: Determination of thimerosal in biological products by liquid chromatography with inductively coupled plasma mass spectrometric detection
AUTHOR(S): Bushee, Diane S.; Moody, John R.; May, Joan C.
CORPORATE SOURCE: Cent. Anal. Chem., Natl. Inst. Stand. Technol., Gaithersburg, MD, 20899, USA
SOURCE: Journal of Analytical Atomic Spectrometry (1989), 4(8), 773-5
CODEN: JASPE2; ISSN: 0267-9477
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A liq. chromatog. system has been interfaced to an inductively coupled plasma mass spectrometer to analyze injectable **biol**. products for thimerosal. Thimerosal is a Hg-contg. antimicrobial agent used as a preservative in these **materials**. Sample types analyzed ranged from vaccines and toxoids (influenza virus vaccine and tetanus toxoid) to diluents, contg. only the preservative in a saline soln. Samples were analyzed quant. for thimerosal content and qual. for the presence of **decompn**. products **detectable** by this method, such as methylmercury chloride, dimethylmercury, and **mercury**(II) chloride. Flow injection was used to confirm that all Hg species in the samples were detd. by liq. chromatog.

L14 ANSWER 27 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:493384 HCAPLUS
DOCUMENT NUMBER: 111:93384
TITLE: New developments in the decomposition of biological material
AUTHOR(S): Knapp, G.
CORPORATE SOURCE: Inst. Anal. Chem., Micro- Radiochem., Graz Univ. Technol., Graz, A-8010, Australia
SOURCE: Trace Elem. Anal. Chem. Med. Biol., Proc. Int. Workshop, 5th (1988), 63-71. Editor(s): Braetter, Peter; Schramel, Peter. de Gruyter: Berlin, Fed. Rep. Ger.
CODEN: 56MXAW
DOCUMENT TYPE: Conference
LANGUAGE: English
AB The requirement for high-performance sample decompn. method becomes increasingly demanding in the field of trace element anal. in biol. materials. Five powerful methods are discussed; three techniques for wet chem. decompn. in closed systems, one plasma ashing technique, and one combustion method. Finally two examples for the decompn. of milligram amts. of biol. materials will be given.

L14 ANSWER 28 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:451794 HCAPLUS
DOCUMENT NUMBER: 111:51794
TITLE: Marine biological reference materials for methylmercury: analytical methodologies used in certification

AUTHOR(S): Berman, S. S.; Siu, K. W. M.; Maxwell, P. S.; Beauchemin, D.; Clancy, V. P.
CORPORATE SOURCE: Div. Chem., Natl. Res. Counc. Canada, Ottawa, ON, K1A 0R9, Can.
SOURCE: Fresenius' Zeitschrift fuer Analytische Chemie (1989), 333(6), 641-4
CODEN: ZACFAU; ISSN: 0016-1152
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The methylmercury concns. in three existing marine biol. certified ref. **materials**, TORT-1, DORM-1, and DOLT-1, are detd. by gas chromatog. with electron capture **detection**, cold vapor at. absorption spectrometry, and inductively coupled plasma mass spectrometry after selective isolation of methylmercury. Two such procedures were used. These and the three anal. techniques are evaluated and compared. The certified methylmercury concns. are: TORT-1, 0.128; DORM-1, 0.731; and DOLT-1, 0.080 .mu.g Hg/g dry wt.
IT **7439-97-6D, Mercury**, Me compds.
RL: BIOL (Biological study)
(marine biol. ref. materials for, certification of)

L14 ANSWER 29 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:91646 HCAPLUS
DOCUMENT NUMBER: 110:91646
TITLE: The rapid decomposition of biological materials by using a microwave acid digestion bomb
AUTHOR(S): Stripp, Richard A.; Bogen, Donald C.
CORPORATE SOURCE: Environ. Meas. Lab., U. S. Dep. Energy, New York, NY, 10014-3621, USA
SOURCE: Journal of Analytical Toxicology (1989), 13(1), 57-9
CODEN: JATOD3; ISSN: 0146-4760
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A microwave acid decompn. technique was evaluated for decompg. biol. std. ref. materials (NBS oyster tissue and bovine liver) for trace metal detns. Dissoln. consisted of HNO3 decompn. in a closed Teflon bomb. A microwave oven was used as the heat source. Complete decompn. times were <1 min. Resulting solns. were analyzed by at. absorption spectrometry for Cd, Cu, Fe, Pb, and Zn. Recoveries were estd. by comparison with NBS certified values. The precision and accuracy of the results ranged 1-13 and 93-106%, resp.

L14 ANSWER 30 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:628577 HCAPLUS
DOCUMENT NUMBER: 109:228577
TITLE: A stirred bath technique for diffusivity measurements in cell matrixes
AUTHOR(S): Chresand, Thomas J.; Dale, Bruce E.; Hanson, Shari L.; Gillies, Robert J.
CORPORATE SOURCE: Dep. Agric. Chem. Eng., Colorado State Univ., Fort Collins, CO, 80523, USA
SOURCE: Biotechnology and Bioengineering (1988), 32(8), 1029-36
CODEN: BIBIAU; ISSN: 0006-3592
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A stirred bath technique was developed for detg. effective diffusivities in cell matrixes. The technique involves cell immobilization in a dil.

gel which has negligible effect on solute diffusion. Agar and collagen were tested as immobilizing gels. Agar gel was shown to have minor interactions with the diffusion of various **biol.** mols., and was used for immobilization of Ehrlich ascites tumor (EAT) cells. Diffusivities of glucose and lactic acid were **measured** in EAT matrixes for cell loadings between 20 and 45 vol.%. Treatment with glutaraldehyde was effective in quenching the **metabolic activity** of the cells while preserving their phys. properties and diffusive resistance. The **measured** data agree favorably with predictions based on Maxwell's equation for effective diffusion in a periodic **composite material**. The stirred bath technique is useful for diffusivity detns. in immobilized matrixes or free slurries and is applicable to both microbial and mammalian cell systems.

L14 ANSWER 31 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1986:494004 HCAPLUS
DOCUMENT NUMBER: 105:94004
TITLE: A separation procedure for the determination of silver, cadmium, **mercury**, and zinc in biological material by radiochemical neutron activation analysis
AUTHOR(S): Haas, H. F.; Krivan, V.
CORPORATE SOURCE: Sekt. Anal. Hoechstreinigung, Univ. Ulm, Ulm, D-7900, Fed. Rep. Ger.
SOURCE: Fresenius' Zeitschrift fuer Analytische Chemie (1986), 324(1), 13-18
CODEN: ZACFAU; ISSN: 0016-1152
DOCUMENT TYPE: Journal
LANGUAGE: German
AB A simple sepn. procedure for the detn. of Ag, Au, Cd, Hg, and Zn in **biol. material** by radiochem. neutron activation anal. was developed. It enables the sepn. of the indicator radionuclides 110mAg, 198Au, 115Cd, 203Hg, and 65Zn in a group with yields >99% and is well suited for the sepn. of 203Hg from 75Se and 65Zn from 46Sc. The sepn. of these radionuclides is often necessary because of the occurrence of instrumental interferences in instrumental neutron activation anal. Simultaneously, the limits of **detection** for Ag, Au, and Cd can be improved significantly. The method is based on the **decompn.** of the sample in the mixt. of HNO3/HCl/H2O2 and on the sepn. of Ag, Au, Cd, Hg, and Zn on Dowex 1X8 from a sample soln. contg. 1.5M HCl. The applicability of this method is demonstrated by the anal. of lichens and several kinds of fungi. The limits of **detection** are of the order of magnitude of 10 ng/g.
IT **7439-97-6**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in biol. materials by neutron activation anal., sepn. method for)

L14 ANSWER 32 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:108774 HCAPLUS
DOCUMENT NUMBER: 100:108774
TITLE: **Metabolic activity** and bioluminescence of oceanic fecal pellets and sediment trap particles
AUTHOR(S): Andrews, Christine C.; Karl, David M.; Small, Lawrence F.; Fowler, Scott W.
CORPORATE SOURCE: Dep. Oceanogr., Univ. Hawaii, Honolulu, HI, 96822, USA
SOURCE: Nature (London, United Kingdom) (1984), 307(5951),

539-41
CODEN: NATUAS; ISSN: 0028-0836
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Microbial, and in particular bacterial, processes have been implicated in the **decompn.** of aquatic fecal pellets. **Metabolic activities** and growth characteristics of the assocd. microorganisms were studied using field-collected fecal pellets of known source and age. Microbial biomass and **metabolic activity** are highest at the time of egestion, and decline with subsequent incubation. An independent observation from these expts. was the **detection** of **bioluminescence** in freshly excreted fecal pellets and in **materials** collected from sediment traps. These field data support an existing model for the ecol. role of bacterial light emission in the mesopelagic zone of the ocean.

L14 ANSWER 33 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1983:586595 HCAPLUS
DOCUMENT NUMBER: 99:186595
TITLE: Determination of **mercury** levels in the environment and in biological materials by atomic absorption
AUTHOR(S): Dmitriev, M. T.; Granovskii, E. I.; Slashchev, A. Ya.
CORPORATE SOURCE: NII Obshch. Kommunal'n. Gig. im. Sysina, Moscow, USSR
SOURCE: Gigiena i Sanitariya (1983), (9), 50-3
CODEN: GISAAA; ISSN: 0016-9900
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Trace Hg was detd. by rapid methods involving preconcn. by amalgamation of a Au wire in Hg vapors, volatilization of the preconcd. Hg at 900.degree., and flameless at. absorption spectrometry. The **detection** limit was 0.01 ng Hg. Details of sample preservation and **decompn.** are given for many **biol.** and environmental **materials.**
IT **7439-97-6,** analysis
RL: ANST (Analytical study)
(detn. of trace, in biol. and environmental samples by flameless at. absorption spectrometry, preconcn. by gold amalgamation in)

L14 ANSWER 34 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1983:149091 HCAPLUS
DOCUMENT NUMBER: 98:149091
TITLE: Combustion of waste waters containing organic alkaline salts
AUTHOR(S): Bartz, H.; Fissan, H.; Dolan, D.
CORPORATE SOURCE: Aerosolmesstech., Univ. Duisburg, Duisburg, 4100, Fed. Rep. Ger.
SOURCE: International Journal of Environmental Analytical Chemistry (1983), 13(3), 193-203
CODEN: IJEAA3; ISSN: 0306-7319
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The **biol.** treatment of wastewaters contg. org. and inorg. salts causes problems because these **materials** inhibit the **metabolic activity** of the bacteria. One possible and economically feasible way to convert the org. **materials** into less toxic forms is a thermal oxidn. process, which can take place either in a fluidized bed combustor or in a vertical combustion chamber. The process is described and parameters of the process are discussed. Results

from particle **measurements** in a vertical combustion chamber for the combustion of various artificial wastewaters are presented. The chem. anal. of the particulate matter from different stages of the process allows a detailed characterization of the **decompn.** of the org. **material.** Conclusions are drawn with respect to the process and the environment.

L14 ANSWER 35 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1981:95314 HCAPLUS
DOCUMENT NUMBER: 94:95314
TITLE: Rapid enrichment method and its use in the determination of traces of metals from aqueous solutions by x-ray fluorescence
AUTHOR(S): Scheubeck, E.; Joerrens, C.; Hoffmann, H.
CORPORATE SOURCE: Forschungslab., Siemens A.-G., Erlangen, D-8520, Fed. Rep. Ger.
SOURCE: Fresenius' Zeitschrift fuer Analytische Chemie (1980), 303(4), 257-64
CODEN: ZACFAU; ISSN: 0016-1152
DOCUMENT TYPE: Journal
LANGUAGE: German
AB A rapid method is described for preconcn. of trace **metals** from aq. solns. for x-ray fluorescence spectrometric detn. The trace **metals** were pptd. (as a group) in a buffered soln. with diethylammonium N,N-diethyldithiocarbamate. The ppt. was filtered off by using a membrane filter. The filter was then dried and used for the x-ray fluorescence **measurements.** The method was used to det. Cr, Ni, Fe, Cu, Zn, Cd, Pb, As, Hg, and Se in drinking and waste waters and to det. Pb, Cd, Hg, and As in **decompn.** solns. of **biol. materials** by the BIOKLAV method (S. et al. (1979)). The recovery was generally 80% or better.
IT **7439-97-6,** analysis
RL: ANST (Analytical study)
(detn. of traces of, in waters and **decompn.** solns. of **biol. materials** by x-ray fluorescence spectrometry, preconcn. technique for)

L14 ANSWER 36 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1978:416192 HCAPLUS
DOCUMENT NUMBER: 89:16192
TITLE: Elemental characterization through instrumental neutron activation
AUTHOR(S): Gangadharan, S.; Yegnasubramanian, S.
CORPORATE SOURCE: Anal. Chem. Div., Bhabha At. Res. Cent., Bombay, India
SOURCE: Journal of Radioanalytical Chemistry (1978), 42(2), 455-62
CODEN: JRACBN; ISSN: 0022-4081
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Neutron activation was used to characterize the elemental **compn.** of geol. and **biol. materials.** Both reactor neutrons and 14-MeV neutrons were used. The instrumental approach was followed incorporating coincidence **measurements.** The system and the methodol. are discussed. The results for 3 Canadian rock stds. (SY-2, SY-3, MRG-1), a trachyte, 2 NBS SRMS (1571 orchard leaves, 1577 bovine liver) and an IAEA intercomparison sample, animal muscle, are given for 15-25 elements.
IT **7439-97-6,** analysis

RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in biol. materials by instrumental neutron activation)

L14 ANSWER 37 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1975:560367 HCAPLUS
DOCUMENT NUMBER: 83:160367
TITLE: Solution for the mineralization of a biological material
INVENTOR(S): Nikiforov, A. P.; Nikiforova, V. A.
PATENT ASSIGNEE(S): Sverdlovsk Scientific-Research Institute of Virus Infections, USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1975, 52(29), 84.
CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 479799	T	19750805	SU 1972-1833227	19721002

PRIORITY APPLN. INFO.: SU 1972-1833227 19721002
AB A soln., contg. H2O, H2SO4, and HClO4, for the mineralization of biol. material, primarily for detg. N, is improved by the addn. of H2O2 to accelerate the decompn. of org. material. The compn. of the soln. in wt.% is: H2SO4 50-58; HClO4 1-3.5; H2O2 11-13; and H2O.

L14 ANSWER 38 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1975:509297 HCAPLUS
DOCUMENT NUMBER: 83:109297
TITLE: Technical problems in selective measurement for inorganic and organic **mercury** by Magos' method
AUTHOR(S): Shishido, Sachiko; Suzuki, Tsuguyoshi
CORPORATE SOURCE: Sch. Med., Tohoku Univ., Sendai, Japan
SOURCE: Sangyo Igaku (1974), 16(4), 274-5
CODEN: SAIGBL; ISSN: 0047-1879
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB During the **measurment** of inorg. and org. Hg [**7439-97-6**] in **biol. materials** by Mago's method, internal stds. of inorg. and org. Hg must be added to the samples to correct the differences due to **decompn.** in sample treatments.
IT **7439-97-6**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in biol. materials, internal std. in relation to)

L14 ANSWER 39 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1968:438526 HCAPLUS
DOCUMENT NUMBER: 69:38526
TITLE: Rapid and accurate determination of traces of **mercury** in the air and in biological media by atomic absorption
AUTHOR(S): Thilliez, G.
CORPORATE SOURCE: Lab. Cent. Rech., Ugine Kuhlmann Levallois, Levallois, Fr.
SOURCE: Chimie Analytique (Paris) (1968), 50(5), 226-32

CODEN: CHALA4; ISSN: 0009-4331
DOCUMENT TYPE: Journal
LANGUAGE: French
AB Hg in air is detd. by the at. absorption technique by using the 255.7 m.mu. resonance line emitted by a Hg cathode ray tube. The sensitivity limit is 1 .mu.g./m.3 Procedures are given for blood, urine, and other **biol.** samples which involve volatilization of at. Hg and **measurement** by the proposed method. The at. Hg is first collected on Pt to free it of interfering gases that are produced in the thermal **decompn.** of the org. **material.** An induction heater is used to rapidly release the Hg from the Pt into an air stream for anal.
IT **7439-97-6,** analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in air and biol. material)

L14 ANSWER 40 OF 40 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1967:461492 HCAPLUS
DOCUMENT NUMBER: 67:61492
TITLE: Determination of cadmium, thallium, and **mercury** in biological materials by atomic absorption
AUTHOR(S): Berman, Eleanor
CORPORATE SOURCE: Cook County Hosp., Chicago, IL, USA
SOURCE: Atomic Absorption Newsletter (1967), 6(3), 57-60
CODEN: AABNAC; ISSN: 0044-9954
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Procedures are given for at. absorption detn. of Cd, Tl, and Hg in blood, urine, tissues, and other **biol. materials.** The procedure involves chem. **decompn.** of the samples, followed by chelation and extn. of the chelated element into methyl isobutyl ketone. Cd and Tl are chelated using Na diethyldithiocarbamate and Hg with ammonium pyrrolidinedithiocarbamate. Data on element recovery using these procedures are given for each element. Case histories demonstrate the value of at. absorption analysis in studying clearances and excretion patterns of these elements during clin. investigation. The technique also has promise in toxicological situations involving tissue analysis. In urine analyses an excretion level of 0.01 .mu.g./ml. for Hg and 0.0025 .mu.g./ml. for Cd in MIBK is **detectable** in urine. Hg **detection** limit in a 10-ml. aliquot of blood is 1 .mu.g./100 ml. (0.01 .mu.g./ml.). **Detection** limit in blood for Cd (in MIBK) is 0.005 .mu.g./ml., and for Tl (in MIBK), 0.5 .mu.g./100 ml.
IT **7439-97-6,** analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in blood, and urine)

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=> d que stat l16
L1          4432 SEA FILE=HCAPLUS ABB=ON  ?COMPOSIT?(L)?BIOL?(L)(BIO?(W)?STRUCT?
                  OR ?DEVICE? OR ?MATER?)
L2           810 SEA FILE=HCAPLUS ABB=ON  L1 AND (?DETECT? OR ?MEASUR?)(L)(?META
                 L? OR ?MATER?)
L3             8 SEA FILE=HCAPLUS ABB=ON  L2 AND ?METABOL?(W)?ACTIV?
L5             1 SEA FILE=HCAPLUS ABB=ON  L2 AND ?LATEX?
L6             9 SEA FILE=HCAPLUS ABB=ON  L3 OR L5
L7             1 SEA FILE=REGISTRY ABB=ON  MERCURY/CN
L8        150248 SEA FILE=HCAPLUS ABB=ON  L7 OR MERCURY
L9            26 SEA FILE=HCAPLUS ABB=ON  L2 AND L8
L10           35 SEA FILE=HCAPLUS ABB=ON  L6 OR L9
L11            6 SEA FILE=HCAPLUS ABB=ON  ?COMPOSIT?(W)?BIOL?(W)(BIO?(W)?STRUCT?
                  OR ?DEVICE? OR ?MATER?)
L14           40 SEA FILE=HCAPLUS ABB=ON  L10 OR L11
L15           46 SEA L14
L16           36 DUP REMOV L15 (10 DUPLICATES REMOVED)

=> d ibib abs l16 1-36

L16  ANSWER 1 OF 36  WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER:     2003-129263 [12]   WPIDS
DOC. NO. CPI:         C2003-033056
TITLE:                New polynucleotide from Plasmodium falciparum and derived
                      protein, useful as immunogen for antimalarial vaccines
                      and for preparing diagnostic or therapeutic antibodies.
DERWENT CLASS:        B04 D16
INVENTOR(S):          DRUILHE, P; GRUNER, A; GRUNER, A C; GRUENER, A
PATENT ASSIGNEE(S):   (INSP) INST PASTEUR
COUNTRY COUNT:        100
PATENT INFORMATION:

     PATENT NO   KIND DATE     WEEK      LA   PG
     -------------------------------------------
     WO 2002092628 A2 20021121 (200312)* FR  115
        RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
            NL OA PT SD SE SL SZ TR TZ UG ZM ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
            DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
            KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
            RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM
            ZW
     CA 2345206    A1 20021116 (200312)  FR
     CA 2346968    A1 20021123 (200312)  FR
     CA 2382977    A1 20021116 (200312)  FR

APPLICATION DETAILS:

     PATENT NO   KIND                  APPLICATION      DATE
     ---------------------------------------------------------
     WO 2002092628 A2                  WO 2002-FR1637   20020515
     CA 2345206    A1                  CA 2001-2345206  20010516
     CA 2346968    A1                  CA 2001-2346968  20010523
     CA 2382977    A1                  CA 2002-2382977  20020515
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PRIORITY APPLN. INFO: CA 2001-2346968 20010523; CA 2001-2345206 20010516
AN 2003-129263 [12] WPIDS
AB WO 200292628 A UPAB: 20030218
NOVELTY - Isolated or purified polynucleotide (I), comprising at least 60, preferably 95,% identity with a 192 (DG747; S1) or 351 (DG772; S2), base pair sequence, given in the specification, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) isolated or purified nucleic acid (Ia) comprising at least 10 consecutive nucleotides (nt) from (S1) or (S2);
(2) isolated or purified nucleic acid (Ib) that hybridizes under highly stringent conditions to (S1) or (S2);
(3) isolated or purified polypeptide (II) that is:
(a) encoded by (I)-(Ib);
(b) at least 60, preferably 95,% homologous with a 64 (S3) or 117 (S4) residue amino acid sequence, given in the specification;
(c) at least 40, preferably 85,% identical with any of the sequences of (b);
(4) recombinant or chimeric polypeptides (IIa) containing at least one (II);
(5) isolated or purified antigen (Ag) comprising (I)-(Ib), (II) or (IIa);
(6) antigenic conjugate (C) comprising Ag adsorbed on a carrier;
(7) mono- or poly-clonal antibodies (Ab) that react specifically with at least one Ag and/or (C);
(8) cloning or expression vector containing (I)-(Ib);
(9) host cells containing the vector of (8);
(10) immunogenic composition, or antimalaria vaccine, containing Ag or (C);
(11) composition containing Ab;
in vitro diagnosis of malaria caused by Plasmodium falciparum, using Ab, Ag or (C); and
(12) kit for process of (12).
ACTIVITY - Protozoacide.
MECHANISM OF ACTION - Vaccine; induction of interferon gamma production by leukocytes.
The plasmid pNAK747 (expressing DG747) was injected intramuscularly into BALB/c mice (four times). When challenged with irradiated P. falciparum sporozoites, lymphocyte proliferation (index of stimulation 23.6 and 33.7) occurred in two of three animals, and all three showed induction of inteferon gamma (15-40 international units/ml).
USE - (I), also their fragments and complements, and polypeptides (II) encoded by them, are useful as immunogens/vaccines for protection against infection by Plasmodium falciparum. They, and their conjugates and antibodies (Ab) raised against (II), are useful in treating P. falciparum malaria and for in vitro diagnosis of infection.
Dwg.0/3

L16 ANSWER 2 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-362424 [39] WPIDS
DOC. NO. CPI: C2002-102646
TITLE: New SPAS-1 protein or antigen obtained from TRAMP-C2 tumor cells, useful as vaccine for treating or inhibiting cancer in patient, e.g. prostate, breast, cervix, ovary, placenta, colon, brain, lung, kidney or germ cell cancer.
DERWENT CLASS: B04 D16
INVENTOR(S): ALLISON, J P; FASSO, M; SHASTRI, N

PATENT ASSIGNEE(S): (REGC) UNIV CALIFORNIA; (ALLI-I) ALLISON J P; (FASS-I) FASSO M; (SHAS-I) SHASTRI N
COUNTRY COUNT: 23
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002024739	A2	20020328	(200239)*	EN	107
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR					
W: AU CA JP					
AU 2001090860	A	20020402	(200252)		
US 2002150588	A1	20021017	(200270)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002024739	A2	WO 2001-US28621	20010913
AU 2001090860	A	AU 2001-90860	20010913
US 2002150588	A1 Provisional	US 2000-234472P	20000921
		US 2001-952432	20010913

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001090860	A Based on	WO 200224739

PRIORITY APPLN. INFO: US 2000-234472P 20000921; US 2001-952432 20010913
AN 2002-362424 [39] WPIDS
AB WO 200224739 A UPAB: 20020621
NOVELTY - An isolated polypeptide comprising an immunogenic portion of a SPAS-1 protein, or its variant that differs one or more substitutions, deletions, additions or insertions, where the SPAS-1 protein comprises an amino acid sequence that is encoded by a partial (995 base pairs) or full length (1185 base pairs) SPAS-1 cDNA from TRAMP-C2 tumor cells, or their complements, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated SPAS-1 polynucleotide comprising:

(a) the bp sequence cited above;

(b) a polynucleotide that:

(i) hybridizes under stringent hybridization conditions to (a);

(ii) encodes the polypeptide with the sequence having 331 or 395 amino acids fully defined in the specification, or its allelic variant or homologue; or encodes a polypeptide with at least 15 contiguous residues of the amino acid sequence cited above; or

(iii) has at least 15 contiguous bases identical to or exactly complementary the bp sequence cited above;

(c) a polynucleotide encoding at least 15 amino acid residues of a SPAS-1 protein, or its a variant that differs in one or more substitutions, deletions, additions or insertions, where the tumor protein comprises the amino acid sequence cited above or their complement; or

(d) a polynucleotide encoding a SPAS-1 protein or its variant;

(2) a vector comprising the polynucleotide or an expression vector comprising the polynucleotide in which the nucleotide sequence is operatively linked with a regulatory sequence that controls expression of

the polynucleotide in a host cell;

(3) a host cell comprising the polynucleotide, or progeny of the cell;

(4) producing the polypeptide;

(5) an isolated antibody or its antigen-binding fragment that specifically binds to at least an immunogenic portion of the SPAS-1 human homolog polynucleotides sequence or its complement;

(6) a fusion protein comprising at least an immunogenic portion of the SPAS-1 human homolog polypeptide sequence;

(7) an isolated polynucleotide encoding the fusion protein;

(8) pharmaceutical compositions comprising a pharmaceutical carrier or excipient, and:

(a) at least an immunogenic portion of the SPAS-1 human homolog polynucleotides sequence (GenBank Accession Number AF257319);

(b) the antibody or its fragment;

(c) an antigen-presenting cell that expresses at least an immunogenic portion of the SPAS-1 human homolog polypeptide;

(d) the fusion protein; or

(e) the polynucleotide encoding the fusion protein;

(9) vaccines comprising:

(a) at least an immunogenic portion of the SPAS-1 human homolog polynucleotides sequence or its complements, and/or DNA sequences that hybridize to the SPAS-1 human homolog polynucleotide sequence; and a non-specific immune response enhancer; or

(b) an antigen-presenting cell that expresses at least an immunogenic portion of the SPAS-1 human homolog polypeptide sequence, in combination with a non-specific immune response enhancer;

(10) removing tumor cells from a biological sample by contacting a biological sample with T cells that specifically react with the SPAS-1 human homolog protein;

(11) stimulating T cells specific for the SPAS-1 protein comprising contacting T cells with one or more of the following:

(a) at least an immunogenic portion of the SPAS-1 human homolog polypeptide;

(b) the polynucleotide encoding the SPAS-1 human homolog polypeptide; or

(c) an antigen presenting cell that expresses the SPAS-1 human homolog polypeptide;

(12) an isolated T cell population comprising T cells prepared by the method of (11);

(13) inhibiting the development of a cancer in a patient;

(14) determining the presence or absence of a cancer in a patient;

(15) monitoring the progression of a cancer in a patient; and

(16) a diagnostic kit, comprising:

(a) one or more of the antibodies cited above; and

(b) a detection reagent comprising a reporter group.

ACTIVITY - Cytostatic. No clinical tests described.

MECHANISM OF ACTION - Vaccine.

USE - The immunogenic portion of the SPAS-1 human homolog polynucleotides sequence, the antibody or its antigen-binding fragment, the antigen-presenting cell, the T cell population and the pharmaceutical compositions are useful for inhibiting the development of a cancer in a patient, specifically prostate, breast, cervix, ovary, placenta, colon, brain, lung, kidney, chronic lymphocytic leukemia or germ cell cancer (claimed). In particular, these compounds are useful for as vaccines for inducing protective immunity against cancer. The above mentioned compounds or compositions are also useful for diagnosing cancer and monitoring cancer progression. The patients may include humans, dogs, cats, cattle,

horses, pigs, monkeys, rabbits, rats or mice.
Dwg.0/18

L16 ANSWER 3 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-339509 [37] WPIDS
DOC. NO. CPI: C2002-097476
TITLE: Preparation of release composition for biological materials, comprises forming homogeneous mix of gel or liquid containing biological material with dry powder of inert compound.
DERWENT CLASS: A97 B07 C07 D16
INVENTOR(S): PEARSON, J F; VON JOHNSON, W
PATENT ASSIGNEE(S): (AGRE-N) AGRESEARCH LTD
COUNTRY COUNT: 97
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002015703	A1	20020228	(200237)*	EN	31

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001084561 A 20020304 (200247)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002015703	A1	WO 2001-NZ168	20010822
AU 2001084561	A	AU 2001-84561	20010822

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001084561	A	Based on	WO 200215703

PRIORITY APPLN. INFO: NZ 2000-506488 20000822; NZ 2000-506487 20000822
AN 2002-339509 [37] WPIDS
AB WO 200215703 A UPAB: 20020613
NOVELTY - Preparation of a release composition for biological materials, comprising forming a homogeneous mix of a gel or liquid containing a biological material with a dry powder of an inert compound, is new.
DETAILED DESCRIPTION - Preparation of a release composition comprising:
(a) preparing a biodegradable biomatrix either as a gel or a liquid, incorporating a biological material, where the liquid is of high or medium viscosity;
(b) preparing a dry powder of one or more inert compounds; and
(c) mixing the preparation of (a) and the preparation of (b) to form a homogeneous mix; where the biomatrix is selected from xanthan gum,acacia gum, guar gum, gellan, starch, and a combination; and where the biological material is selected from a bio-inoculant, a micro-organism, biological cells, a part or parts of a biological cell, a vaccine, at least one

pharmaceutical compound, at least one enzyme, at least one hormone, at least one protein, at least one bio-chemical, biological unstable composition, at least one non-biological compound, and a combination of these; and where the composition is thermo-stable and bio-stable in the absence of substantial water.

USE - The release composition may be used for delivery of biological material via a spray for application to plants and animals, and the biological material may include an active ingredient to be sprayed over plants and animals. A method of inoculating a plant seed may be used with the biological material comprising:

(a) selecting at least one biological material to be used as an inoculant;

(b) preparing the composition by a method as in (A);

(c) adding the composition to water and mixing to release the biological material into the solution; and

(d) soaking the plant seed in the solution to allow the biological material to coat the plant seed.

The release compositions can be used for the storage and release of biological materials such as a bio-inoculant, a micro-organism, biological cells, a part or parts of a biological cell, a vaccine, at least one pharmaceutical compound. at least one enzyme, at least one hormone, at least one protein, at least one bio-chemical, biological unstable composition, or at least one non-biological compound, e.g. a pesticide, a viricide, a bacteriocide, a fungicide, a live vaccine e.g. bacille Clamette-Guerin (BCG), an oral attenuated vaccine, or an encapsulated mycobacterium vaccine. They can be used to form a dough with water and be formed into pellets. The pellets can be both bio-stable and thermo-stable. The compositions can be applied to a substrate such as seeds and the seeds dried before drilling or seed broadcast. The compositions can also be used to form slow release compositions of microorganisms e.g. Serratia e.g. Serratia entomophila, Pseudomonas, Xanthomonas, or Rhizobium (all claimed).

ADVANTAGE - The medium can provide for long term storage of biological materials with a half life of more than 50% for over 6 months at room temperature. The compositions can provide for quick release of the biological material upon contact with water.

Dwg.0/0

L16 ANSWER 4 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-154730 [20] WPIDS
DOC. NO. NON-CPI: N2002-117632
DOC. NO. CPI: C2002-048397
TITLE: Identifying ligands for CD81, useful potentially for treating hepatitis C infection, using the three-dimensional structure of the long extracellular loop.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BOLOGNESI, M; GRANDI, G
PATENT ASSIGNEE(S): (CHIR-N) CHIRON SPA
COUNTRY COUNT: 96
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002002631	A1	20020110	(200220)*	EN	55

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK

DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU
SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001076623 A 20020114 (200237)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002002631 A1		WO 2001-IB1450	20010703
AU 2001076623 A		AU 2001-76623	20010703

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001076623 A	Based on	WO 200202631

PRIORITY APPLN. INFO: GB 2000-16361 20000703
AN 2002-154730 [20] WPIDS
AB WO 200202631 A UPAB: 20020402
NOVELTY - Computer-based method for identifying a ligand (I) for CD81, comprising applying structure-based drug design techniques to a three-dimensional (3D) structural representation, stored in a computer, of the long extracellular loop (LEL) of CD81, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) (I) identified this way;
(2) computer-readable medium containing the atomic co-ordinates and/or 3D structural representation of the LEL of CD81; and
(3) composition comprising an extracellular region of CD81 in crystalline form.
ACTIVITY - Virucide; hepatotropic; antiinflammatory.
No biological data is given.
MECHANISM OF ACTION - (I) binds to CD81, the cell-surface receptor for hepatitis C virus, so it competitively inhibits binding of this virus.
USE - (I) are potentially useful as agents for treatment of hepatitis C virus infection, or for the development of agents for it.
Dwg.0/3

L16 ANSWER 5 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-659522 [71] WPIDS
DOC. NO. CPI: C2002-185520
TITLE: Growth medium for microorganisms, useful for identifying contaminants in gene libraries, comprises compounds that support the growth of contaminants selectively.
DERWENT CLASS: B04 D16
INVENTOR(S): KIRBY, S F; KOLLER, B; MIELKE, M; PETERS, M; SCHNEIDER, D
PATENT ASSIGNEE(S): (DERE-N) DEUT RESSOURCENZENTRUM GENOMFORSCHUNG GM
COUNTRY COUNT: 26
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 1234873	A1	20020828	(200271)*	EN	22

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 1234873	A1	EP 2001-104062	20010220

PRIORITY APPLN. INFO: EP 2001-104062 20010220
AN 2002-659522 [71] WPIDS
AB EP 1234873 A UPAB: 20021105
NOVELTY - A growth medium (A) comprising at least one compound (I) which restricts the growth of microorganisms that have a defect in at least one factor (II) required for metabolism of (I) but promotes growth of those without such a defect, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) detecting contaminating microorganisms in a gene library consisting of microorganisms that have a defect in at least one (II) by growing the library on (A) and identifying contaminants by visualizing its **metabolic activity**; and

(2) kit comprising (A), a carrier and optionally spotting robot and optometric device for visual analysis.

USE - (A) is useful for detecting (and optionally removing) contaminating microorganisms from gene libraries that consist of microrganisms with the specified defect, including recovery of single clones.

ADVANTAGE - (A) allows easy recognition and eradication of contaminating clones, even when present at low level, which ensures that a high degree of microbial purity is maintained in the gene library during production, storage, use and reproduction.

Dwg.0/2

L16 ANSWER 6 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2003-047452 [05] WPIDS
DOC. NO. NON-CPI: N2003-037357
DOC. NO. CPI: C2003-012241
TITLE: Preparation of wollastonite/tricalcium phosphate composite bio-active material.
DERWENT CLASS: D22 L02 P34
INVENTOR(S): HUANG, X; JIANG, D; TAN, S
PATENT ASSIGNEE(S): (SHAN-N) SHANGHAI SILICATE INST CHINESE ACAD SCI
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
CN 1367153	A	20020904	(200305)*		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
CN 1367153	A	CN 2002-110848	20020209

PRIORITY APPLN. INFO: CN 2002-110848 20020209
AN 2003-047452 [05] WPIDS
AB CN 1367153 A UPAB: 20030121

NOVELTY - The preparation of wollastonite/tricalcium phosphate **composite biological material** includes using Na2SiO3 or silicon sol as a silicon source and using Ca(Na3)2 or CaCl2 and Ca(OH)2 as a calcium source, respectively preparing their solutions with a specific concentration and pH value, adding a proper quantity of beta -tricalcium phosphate (beta -TCP) to the calcium containing solution, uniformly dispersing, then utilizing chemical co-precipitation to prepare calcium silicate hydrate and beta -TCP powder uniformly-mixed precipitate, washing and drying, roasting at 800-900 deg. C to obtain wollastonite and beta -TCP composite powder, granulating, dry-pressing and forming, sintering for 2-5 hours at 1300-1400 deg. C to obtain wollastonite/tricalcium phosphate composite biological ceramics.

USE - Used for the formation of in-situ porous structures for growing tissues and blood vessels.

Dwg.0/0

L16 ANSWER 7 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 2002239721 EMBASE

TITLE: Methylmercury determination in biological samples by derivatization, solid-phase microextraction and gas chromatography with microwave-induced plasma atomic emission spectrometry.

AUTHOR: Rodil R.; Carro A.M.; Lorenzo R.A.; Abuin M.; Cela R.

CORPORATE SOURCE: R.A. Lorenzo, Depto. Quim. Anal., Nutr. Bromatol., Facultad de Quimica, Univ. de Santiago de Compostela, Avda. de las Ciencias s/n, 15782 Santiago de Compostela, Spain. qnralf@usc.es

SOURCE: Journal of Chromatography A, (19 Jul 2002) 963/1-2 (313-323).
Refs: 39
ISSN: 0021-9673 CODEN: JCRAEY

PUBLISHER IDENT.: S 0021-9673(02)00644-1

COUNTRY: Netherlands

DOCUMENT TYPE: Journal; Conference Article

FILE SEGMENT: 029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB A method for the extraction and gas chromatographic determination of methylmercury in **biological** matrices is presented. By combining the advantages of two extraction techniques - microwave-assisted extraction (MAE) and solid-phase microextraction (SPME) - the separation of methylmercury from **biological** samples is possible. Specifically, the procedure involves microwave extraction with 3 M hydrochloric acid, followed by aqueous-phase derivatization with sodium tetraphenylborate and headspace SPME with a silica fibre coated with polydimethylsiloxane (PDMS). For optimization of the derivatization-SPME procedure, a central **composite** experimental design with .alpha.=1.682 and two central points was used to model gas-chromatographic peak areas as functions of pH, extraction temperature and sorption time. A desirability function was then used for the simultaneous optimization for methylmercury and Hg(II). The optimal derivatization-SPME conditions identified were close to pH 5, temperature 100.degree.C, and sorption time 15 min. The identification and quantification of the extracted methylmercury is carried out by gas chromatography with microwave-induced plasma atomic emission spectrometry **detection**. The validity of the new procedure is shown by the results of analyses of certified reference **materials**. .COPYRGT. 2002 Elsevier Science B.V. All rights reserved.

L16 ANSWER 8 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
ACCESSION NUMBER: 2002:445792 BIOSIS
DOCUMENT NUMBER: PREV200200445792
TITLE: Direct **mercury** determination in aqueous slurries of environmental and biological samples by cold vapour generation-electrothermal atomic absorption spectrometry.
AUTHOR(S): Moreda-Pineiro, Jorge (1); Lopez-Mahia, Purificacion; Muniategui-Lorenzo, Soledad; Fernandez-Fernandez, Esther; Prada-Rodriguez, Dario
CORPORATE SOURCE: (1) Department of Analytical Chemistry, Faculty of Sciences, University of A Coruna, Campus da Zapateira s/n, E-15071 A, Coruna: jmoreda@udc.es Spain
SOURCE: Analytica Chimica Acta, (28 May, 2002) Vol. 460, No. 1, pp. 111-122. http://www.elsevier.com/locate/aca. print. ISSN: 0003-2670.
DOCUMENT TYPE: Article
LANGUAGE: English
AB Direct cold vapour generation from aqueous slurries of environmental (marine sediment, soil, coal) and **biological** (human hair, seafood) samples have been developed using a batch mode generation system coupled with electrothermal atomic absorption spectroscopy. The effects of several variables affecting the cold vapour generation efficiency from solid particles (hydrochloric acid and sodium tetrahydroborate concentrations, argon flow rate, acid solution volume and mean particle size) have been evaluated using a Plackett-Burman experimental design. In addition, variables affecting cold vapour trapping and atomisation efficiency on Ir-treated graphite tubes (trapping and atomisation temperatures and trapping time) have been also investigated. Atomisation and trapping temperatures, trapping time and hydrochloric acid concentration were the significant variables. The 22 + star and 23 + star central **composite** designs have been used to obtain optimum values of the variables selected. The accuracy of methods have been verified by using several certified reference **materials** (PACS-1, GBW-07410, NIST-1632c, CRM-397 and DORM-2). A characteristic mass of 390 pg were achieved. The **detection** limits of methods were in the range of 40-600 ng g-1. A particle size less than 50 mum is adequate to obtain total cold vapour generation of Hg content in the aqueous slurry particles.

L16 ANSWER 9 OF 36 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2002678788 MEDLINE
DOCUMENT NUMBER: 22326976 PubMed ID: 12438000
TITLE: Mutagenic activity of structurally related oxiranes and siloranes in Salmonella typhimurium.
AUTHOR: Schweikl Helmut; Schmalz Gottfried; Weinmann Wolfgang
CORPORATE SOURCE: Department of Operative Dentistry and Periodontology, University of Regensburg, D-93042 Regensburg, Germany.. helmut.schweikl@klinik.uni-regensburg.de
SOURCE: MUTATION RESEARCH, (2002 Nov 26) 521 (1-2) 19-27. Journal code: 0400763. ISSN: 0027-5107.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200301
ENTRY DATE: Entered STN: 20021120

Last Updated on STN: 20030118
Entered Medline: 20030117

AB Ring-opening molecules like oxiranes (epoxides) maybe suitable for the development of non-shrinking dental **composite materials** . Since oxiranes are reactive molecules, they can cause adverse **biological** effects in living organisms. The introduction of siloranes, a merger of silane and oxirane, may solve this problem. Here, new oxiranes and siloranes were analyzed for the induction of mutations in Salmonella typhimurium (TA97a, TA98, TA100, and TA102), and a reactive oxirane molecule served as a reference. This chemical, epoxy cyclohexyl methyl-epoxy cyclohexane carboxylate (Est-Ep) tested positive in S. typhimurium TA100. The numbers of mutants were about 3-10-fold higher than controls in the presence of a **metabolically active** S9 fraction isolated from rat liver. Only a weak mutagenic effect was observed after direct testing (without S9). Di(cyclohexene-epoxidemethyl)ether (Eth-Ep) also caused a slight increase of mutant numbers in TA100 both in the presence and absence of S9. In contrast, no effects were **detected** with the large oxirane molecules, 2,2-bis(4,1-phenylenoxy-3,1-propanediyl-3-oxatricyclo [3.2.1.0(2,4)]octylcarboxy) propylidene (Nor-BP-Ep) and 2,2-bis(4,1-phenylenoxy-3,1-propanediyl-3,4-epoxycyclo-hexylcarboxylic-acid) propylidene (Est-BP-Ep). As to the siloranes, 1,4-bis(2,3-epoxypropyloxypropyl-dimethylsilyl)-benzene (Phen-Glyc) was a direct mutagen in S. typhimurium TA100 and TA102. This weak but dose-related increase of revertants was even enhanced by S9. Other siloranes, like di-3,4-epoxy cyclohexylmethyl-dimethyl-silane (DiMe-Sil), methyl-bis[2-(7-oxabicyclo[4.1.0]hept-3-yl)phenyl silane (Ph-Sil), and 1,3,5,7-tetrakis(ethyl cyclohexane epoxy)-1,3,5,7-tetramethyl-cyclotetrasiloxane (TET-Sil) tested negative in all S. typhimurium strains. All compounds will be further analyzed for the formation of chromosomal aberrations in mammalian cell cultures.

L16 ANSWER 10 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-451868 [48] WPIDS
CROSS REFERENCE: 1998-145263 [13]; 2001-061976 [07]; 2001-656926 [75]; 2002-258024 [30]; 2002-608256 [65]; 2003-092900 [08]
DOC. NO. CPI: C2001-136537
TITLE: Detecting a nucleic acid useful in e.g. diagnosing genetic, bacterial or viral diseases, by contacting the nucleic acid with oligonucleotides attached to nanoparticles and having sequences complementary a portion of the nucleic acid.
DERWENT CLASS: B04 D16
INVENTOR(S): ELGHANIAN, R; LETSINGER, R L; MIRKIN, C A; MUCIC, R C; STORHOFF, J J; TATON, T A; GARIMELLA, V; LI, Z
PATENT ASSIGNEE(S): (NANO-N) NANOSPHERE INC; (ELGH-I) ELGHANIAN R; (GARI-I) GARIMELLA V; (LETS-I) LETSINGER R L; (LIZZ-I) LI Z; (MIRK-I) MIRKIN C A; (MUCI-I) MUCIC R C; (STOR-I) STORHOFF J J; (TATO-I) TATON T A
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001051665 A2		20010719	(200148)*	EN	229

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM

DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE
SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

AU 2001032795 A 20010724 (200166)
US 2002127574 A1 20020912 (200262)
US 2002155442 A1 20021024 (200277)
US 6506564 B1 20030114 (200313)

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2001051665	A2		WO 2001-US1190	20010112
AU 2001032795	A		AU 2001-32795	20010112
US 2002127574	A1	Provisional	US 1996-31809P	19960729
		CIP of	WO 1997-US12783	19970721
		CIP of	US 1999-240755	19990129
		CIP of	US 1999-344667	19990625
		Provisional	US 2000-200161P	20000426
		Cont of	US 2000-603830	20000626
			US 2001-973788	20011010
US 2002155442	A1	Provisional	US 1996-31809P	19960729
		CIP of	WO 1997-US12783	19970721
		CIP of	US 1999-240755	19990129
		CIP of	US 1999-344667	19990625
		Provisional	US 2000-176409P	20000113
		Provisional	US 2000-200161P	20000426
		Provisional	US 2000-213906P	20000626
			US 2001-760500	20010112
US 6506564	B1	Provisional	US 1996-31809P	19960729
		CIP of	WO 1997-US12783	19970721
		CIP of	US 1999-240755	19990129
		CIP of	US 1999-344667	19990625
		Provisional	US 2000-200161P	20000426
			US 2000-603830	20000626

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001032795	A	Based on	WO 200151665
US 2002127574	A1	CIP of	US 6361944
US 2002155442	A1	CIP of	US 6361944

PRIORITY APPLN. INFO: US 2001-760500 20010112; US 2000-176409P 20000113; US 2000-200161P 20000426; US 2000-603830 20000626; US 1996-31809P 19960729; WO 1997-US12783 19970721; US 1999-240755 19990129; US 1999-344667 19990625; US 2001-973788 20011010; US 2000-213906P 20000626

AN 2001-451868 [48] WPIDS

CR 1998-145263 [13]; 2001-061976 [07]; 2001-656926 [75]; 2002-258024 [30]; 2002-608256 [65]; 2003-092900 [08]

AB WO 200151665 A UPAB: 20030224

NOVELTY - **Detecting** a nucleic acid having at least 2 portions, comprises contacting the nucleic acid with one or more types of nanoparticles having oligonucleotides attached to the nanoparticles and

having sequences complementary to portions of the sequence of the nucleic acid.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) methods of **detecting** a nucleic acid having at least 2 portions comprising:

(a) contacting the nucleic acid with one or more types of nanoparticles having oligonucleotides attached to the nanoparticles and having sequences complementary to portions of the sequence of the nucleic acid, under conditions allowing the hybridization of the oligonucleotides on the nanoparticles with the nucleic acid; and

(b) observing a **detectable** change brought about by hybridization of the oligonucleotides on the nanoparticles with the nucleic acid;

(2) kits comprising at least one container holding a composition containing at least 2 types of nanoparticles having oligonucleotides attached to it, where the first type has a sequence complementary to the sequence of a first portion of a nucleic acid, and the oligonucleotides on the second type of nanoparticles has a sequence complementary to the sequence of a second portion of the nucleic acid;

(3) an aggregate probe comprising at least 2 types of nanoparticles having oligonucleotides attached to it, the nanoparticles of the aggregate probe are bound to each other as a result of the hybridization of some of the oligonucleotides attached to them, and at least one of the nanoparticles of the aggregate probe having oligonucleotides attached to it which have a hydrophobic group on the end not attached to the nanoparticles;

(4) a kit comprising a container holding a core probe having at least 2 types of nanoparticles having oligonucleotides attached to it and the nanoparticles of the core probe is bound to each other as a result of the hybridization of some of the oligonucleotides attached to them;

(5) a core probe comprising at least 2 types of nanoparticles having oligonucleotides attached to it;

(6) a substrate having nanoparticles attached to it;

(7) a **metallic** or semiconductor nanoparticle having oligonucleotides attached to it which are labeled with fluorescent molecule at the end not attached to the nanoparticle;

(8) a satellite probe comprising a particle having attached oligonucleotides, and probe oligonucleotides hybridized to the oligonucleotides attached to the nanoparticles;

(9) methods of nanofabrication;

(10) **nanomaterials** or nanostructures composed of nanoparticles having oligonucleotides attached to it and being held by oligonucleotide connectors;

(11) a composition comprising at least 2 types of nanoparticles having oligonucleotides attached to it;

(12) an assembly of containers holding nanoparticles having oligonucleotides attached to them;

(13) a nanoparticle having multiple oligonucleotides attached to it;

(14) a method of separating a selected nucleic acid having at least 2 portions from other nucleic acid;

(15) methods of binding oligonucleotides to charged nanoparticles to produce stable nanoparticle-oligonucleotide conjugates;

(16) nanoparticle-oligonucleotide conjugates which are nanoparticles having oligonucleotides attached to them, where the oligonucleotides are present on the surface of the nanoparticles at a surface density sufficient so that the conjugates are stable, and at least some of the oligonucleotides have sequences complementary to at least one portion of

the nucleic acid or oligonucleotide sequence;

(17) nanoparticles having oligonucleotides attached to them which comprises at least one type of recognition oligonucleotides having a sequence complementary to a portion of the nucleic acid sequence, and a type of diluent oligonucleotides; and

(18) methods of **detecting** a nucleic acid.

USE - The methods are useful for **detecting** nucleic acids, natural or synthetic, and modified or unmodified. The methods may also be applied in the diagnosis of genetic, bacterial and viral diseases, in forensics, in DNA sequencing, for paternity testing, for cell line authentication, and for monitoring gene therapy. The methods are further useful in research and analytical laboratories in DNA sequencing, in the field to **detect** the presence of specific pathogens, for quick identification of an infection to assist in drug prescription, and in homes and health centers for inexpensive first-line screening.

ADVANTAGE - The methods, which are based on observing color change with the naked eye, are cheap, fast, simple, robust (reagents are stable), do not require specialized or expensive equipment, and little or no instrumentation is required.

Dwg.0/46

L16 ANSWER 11 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-425866 [45] WPIDS
DOC. NO. CPI: C2001-128895
TITLE: Novel ovarian tumor proteins, and nucleic acids encoding them, used to treat and diagnose cancers, particularly ovarian cancer.
DERWENT CLASS: B04 D16
INVENTOR(S): ALGATE, P A
PATENT ASSIGNEE(S): (CORI-N) CORIXA CORP
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001051513	A2	20010719	(200145)*	EN	337

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001036470 A 20010724 (200166)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001051513	A2	WO 2001-US1575	20010116
AU 2001036470	A	AU 2001-36470	20010116

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001036470	A Based on	WO 200151513

PRIORITY APPLN. INFO: US 2000-176722P 20000114

AN 2001-425866 [45] WPIDS
AB WO 200151513 A UPAB: 20010813
NOVELTY - An isolated polypeptide (I), comprising at least an immunogenic portion of an ovarian tumor protein, encoded by one of 1502 23-791 nucleotide sequences (S1), all fully defined in the specification, or it's variant having one or more amino acid substitutions, deletions or insertions but still reactive with antigen-specific antisera, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide (II) encoding (I), or at least 15 amino acid residues of it;

(2) an isolated polynucleotide (III) comprising S1

(3) an isolated polynucleotide (IV) that hybridizes to S1 under moderately stringent conditions;

(4) an isolated polynucleotide complementary to (II), (III) or (IV);

(5) an expression vector (V) comprising (II), (III) or (IV);

(6) a host cell transformed or transfected with (V);

(7) an antibody (VI) specific for (I);

(8) a fusion protein (VII) comprising (I);

(9) an isolated polynucleotide (VIII) encoding (VII);

(10) a composition comprising (I), (II), (III), (IV), (VI), (VII) or (VIII) and a carrier;

(11) a composition comprising an antigen presenting cell that expresses (I), and a carrier;

(12) a vaccine comprising (I), (II), (III), (IV), (VI), (VII), (VIII) or an antigen presenting cell that expresses (I), and a non-specific immune-response enhancer;

(13) removing tumor cells from a biological sample, comprising contacting it with T cells specific for (I);

(14) inhibiting the development of cancer, comprising administering a biological sample treated by the method of (13);

(15) stimulating and/or expanding T cells specific for (I), comprising contacting T cells with (I), (II) or an antigen presenting cell that expresses (I);

(16) an isolated T cell population (IX), comprising T cells prepared by the method of (15);

(17) inhibiting the development of cancer, comprising:

(a) incubating CD4+ and/or CD8+ T cells isolated from a patient with at least one component selected from (I), (II) and an antigen presenting cell that expresses (I); and

(b) administering the proliferated T cells of (a);

(18) the method of (17), where the proliferated T cell is cloned prior to administration;

(19) determining the presence, or progression of a cancer in a patient, comprising:

(a) contacting a biological sample with a binding agent specific for (I);

(b) detecting the amount of (I) bound to the binding agent; and

(c) comparing the amount of (I) to a predetermined value or to a value obtained from a the patient at a previous time point, respectively;

(20) determining the presence, or progression of a cancer in a patient, comprising:

(a) contacting a biological protein with an oligonucleotide which hybridizes to (II);

(b) detecting the amount of (II) that hybridizes to the oligonucleotide; and

(c) comparing the amount of (II) to a predetermined value or to a value obtained from a the patient at a previous time point, respectively;

(21) a diagnostic kit comprising (VI) and a detection reagent comprising a reporter group;

(22) an oligonucleotide comprising 10-40 nucleotides which hybridizes to (II) under moderately stringent conditions; and

(23) a diagnostic kit, comprising the oligonucleotide of (22) and a diagnostic reagent for use in a polymerase chain reaction hybridization assay.

ACTIVITY - Cytostatic.

No biological data is given.

MECHANISM OF ACTION - Gene therapy; vaccine.

USE - (I), (II), (VI), (IX) an antigen presenting cell that expresses (I), the composition of (10) or (11) and the vaccine, can be used to inhibit the development of cancer, particularly ovarian cancer. (I), (II) and (VI), are used to diagnose onset and progression of cancer. (All claimed).

Dwg.0/0

L16 ANSWER 12 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-587225 [55] WPIDS
DOC. NO. NON-CPI: N2000-434606
DOC. NO. CPI: C2000-175057
TITLE: Composition for testing bovine pregnancy, comprises antibody to an early pregnancy factor conjugated to a label.
DERWENT CLASS: B04 C07 D16 P32
INVENTOR(S): FRUSHOUR, S L M; JONES, K D; PEARSON, M; SLOWIKOWSKI, E
PATENT ASSIGNEE(S): (KEMS-N) KEMS BIO-TEST LTD
COUNTRY COUNT: 89
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000051520	A2	20000908	(200055)*	EN	46
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
AU 2000035119	A	20000921	(200065)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000051520	A2	WO 2000-US5616	20000302
AU 2000035119	A	AU 2000-35119	20000302

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000035119	A Based on	WO 200051520

PRIORITY APPLN. INFO: US 1999-122400P 19990302
AN 2000-587225 [55] WPIDS
AB WO 200051520 A UPAB: 20001102
NOVELTY - A **composition** (I) for testing pregnancy of an animal,

comprises an antibody to an early pregnancy factor (EPF) of an animal conjugated to a label.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a test **device** (II) for **detecting** an animal EPF, comprising:

(a) a porous solid phase **material** capable of conveying a liquid sample in a fluid flow direction generally parallel to the length of the test **device**;

(b) sample receiving zone within the porous solid phase **material**, where the sample and other assay reagents may be contacted with the **device**; and

(c) an antibody zone within the porous solid phase **material**, comprising an immobilized antibody to the EPF of the animal disposed at a downstream location from the sample receiving zone;

(2) isolating (III) an antibody to an EPF, comprising injecting a **biological** fluid comprising EPF of the animal to another animal which is capable of producing antibody to the **biological** fluid, isolating antibodies and removing non-early EPF antibodies;

(3) a liquid sampling tube, comprising a base portion having an inlet for allowing a liquid sample to enter into the tube, a body portion having at least one opening and a top portion for enclosing the tube; and

(4) a bovine pregnancy testing kit (IV), comprising a bovine pregnancy test **device** and a liquid sampling tube.

USE - (I) or (II) is useful for determining pregnancy of an animal, especially a cow which is pregnant for less than 100 days, especially from 20-40 days, by obtaining a liquid **biological** sample such as urine, saliva, milk, perspiration (or their combinations), preferably serum and testing for the presence of EPF in the sample (claimed).

ADVANTAGE - The pregnancy **detection** method facilitates early **detection** of the pregnancy as early as 30-48 hours after insemination.

Dwg.0/6

L16 ANSWER 13 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-431123 [37] WPIDS
DOC. NO. NON-CPI: N2000-321758
DOC. NO. CPI: C2000-130959
TITLE: Preparing nanoparticles with attached polymer shells, used to detect or quantify analytes e.g. nucleic acids, by providing nanoparticles and attaching initiation monomers to nanoparticle surfaces.
DERWENT CLASS: A96 B04 D16 E11 E12 P73 S03
INVENTOR(S): MIRKIN, C A; NGUYEN, S T
PATENT ASSIGNEE(S): (NANO-N) NANOSPHERE LLC; (NANO-N) NANOSPHERE INC
COUNTRY COUNT: 88
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000033079	A1	20000608	(200037)*	EN	65
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
AU 2000019286	A	20000619	(200044)		

EP 1135682 A1 20010926 (200157) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
CN 1328641 A 20011226 (200227)
JP 2002531830 W 20020924 (200278) 85

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000033079	A1	WO 1999-US28387	19991130
AU 2000019286	A	AU 2000-19286	19991130
EP 1135682	A1	EP 1999-962951	19991130
		WO 1999-US28387	19991130
CN 1328641	A	CN 1999-813888	19991130
JP 2002531830	W	WO 1999-US28387	19991130
		JP 2000-585664	19991130

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000019286	A	Based on	WO 200033079
EP 1135682	A1	Based on	WO 200033079
JP 2002531830	W	Based on	WO 200033079

PRIORITY APPLN. INFO: US 1998-110327P 19981130
AN 2000-431123 [37] WPIDS
AB WO 200033079 A UPAB: 20000807
NOVELTY - Preparing nanoparticles with at least one polymer shell attached by providing a type of nanoparticles, and attaching a type of initiation monomers to the surfaces of the nanoparticles, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) nanoparticles to which initiation monomers are attached;
(2) nanoparticle comprising one or more polymer shells attached to them, the shells are formed by polymerization of one or more types of propagation monomers of formula (I): P-L-N (I);
(3) propagation monomers of formula (I);
(4) initiation monomers of formula (II): N-L-A (II);
(5) **detecting** or quantitating analyte, comprising contacting a sample suspected of containing an analyte which binds to a binding moiety in a polymer shell, with the nanoparticles comprising the moiety in a polymer shell, and **detecting** or **measuring** the properties of the nanoparticle to **detect** or quantify the analyte;
(6) a kit for **detecting** or quantitating analyte, containing nanoparticles comprising a binding moiety specific for an analyte in a polymer shell;
(7) binding monomers of formula (III): N-L-B (III);
(8) a polymer formed by polymerizing one or more (I);
(9) **detecting** or quantitating an analyte, comprising contacting a sample with the polymer of (8), and **detecting** or **measuring** the properties of the polymer to **detect** or quantitate the analyte;
(10) **detecting** or quantitating an analyte, comprising contacting the analyte with (III), adding (I), so that the propagation monomers polymerize to a form a polymer attached to the analyte, and

detecting or **measuring** the properties of the polymer attached to the analyte in order to **detect** or quantitate the analyte; and

(11) a kit for **detecting** or quantitating an analyte, comprising (III) and/or (I).

N = cyclic olefin-containing group;

P = group that gives each polymer shell a selected property or properties;

L = bond or linker;

A = attachment compound-containing group comprising a functional group suitable for attaching the initiation monomer to a nanoparticles;

B = binding group that binds specifically to an analyte.

USE - The processes are used to prepare nanoparticles with attached polymer shells (claimed) including nanoparticles of **metal** (gold, silver, copper, platinum), semiconductor (silicon, cadmium selenide, cadmium sulfide or cadmium sulfide protected with zinc sulfide), polymer (polystyrene, polymethylmethacrylate), magnetic (ferromagnetite), insulator (silicon dioxide), or superconductor (YBa2Cu3O7-d) colloidal **materials** as well as zinc selenide, zinc sulfide, zinc oxide, titanium dioxide, silver iodide, silver bromide, **mercury** iodide, lead sulfide, lead selenide, lead tellurinide, zinc tellurinide, silicon dioxide, cadmium tellurinide, indium sulfide, indium selenide, indium tellurinide, cadmium phosphide, cadmium arsenide, indium arsenide, indium phosphide, gallium phosphide and gallium arsenide. The nanoparticles produced may be used to **detect** or quantify analytes e.g. nucleic acids, antigens or haptens (claimed) as well as polysaccharides, lipids, lipopolysaccharides, proteins, glycoproteins, lipoproteins, nucleoproteins, peptides, oligonucleotides, specifically antibodies, immunoglobulins, albumin, hemoglobin, coagulation factors, peptide and protein hormones (insulin, gonadotropin, somatotropins), non-peptide hormones, interleukins, interferons and other cytokines, peptides comprising a tumor-specific epitope, cells (red blood cells), cell-surface molecules (CD antigens, integrins, cell receptors),microorganisms (viruses, bacteria, parasites, molds, fungi) and their fragments, components or products, small organic molecules (digoxin, heroin, cocaine, morphine, mescaline, lysergic acid, tetrahydrocannabinol, cannabinol, steroids, pentamidine, biotin), genes, viral RNA or DNA, bacterial DNA, fungal DNA, mammalian DNA, cDNA, mRNA, RNA and DNA fragments, oligonucleotides, synthetic oligonucleotides, modified oligonucleotides, single- and double-stranded nucleic acids, and natural and synthetic nucleic acids in **biological** fluids (serum, plasma, blood, saliva, urine), cells, cell lysates, tissues, compound libraries (organic chemicals or peptides) and solutions containing polymerase chain reaction components. The nanoparticles produced can also be used as versatile building blocks for easy incorporation into existing particle assembly strategies.

ADVANTAGE - The processes produce nanoparticles with selected redox, optical, electronic or magnetic activity. The processes are 'living' polymerizations such that they provide exceptional control over polymer length and chemical **composition**, and particle size, shape and solubility.

Dwg.0/8

L16 ANSWER 14 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-271560 [23] WPIDS
DOC. NO. NON-CPI: N2000-203301
DOC. NO. CPI: C2000-083024
TITLE: **Composite biological** analytical

device, useful for **detecting** **metals** or drug screening, contains **metabolically active biological** **material** as integral part of **latex** layer.

DERWENT CLASS: A89 B04 D16 J04 S03
INVENTOR(S): ANDERSON, R; FLICKINGER, M C; LYNGBERG, O K; SCRIVEN, L E E
PATENT ASSIGNEE(S): (MINU) UNIV MINNESOTA
COUNTRY COUNT: 90
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000016098	A1	20000323 (200023)*		EN	56

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

AU 9961524	A	20000403 (200034)		
EP 1114319	A1	20010711 (200140)		EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000016098	A1	WO 1999-US21581	19990917
AU 9961524	A	AU 1999-61524	19990917
EP 1114319	A1	EP 1999-948317	19990917
		WO 1999-US21581	19990917

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9961524	A	Based on	WO 200016098
EP 1114319	A1	Based on	WO 200016098

PRIORITY APPLN. INFO: US 1998-100914P 19980917
AN 2000-271560 [23] WPIDS
AB WO 200016098 A UPAB: 20000516
NOVELTY - A **composite biological device** (A) comprising a biostructure (BS), at least part of which is a non-porous **latex**-derived **material** (I) that includes at least one **metabolically active biological** **material** (II) as an integral component, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a **composite biological device** (A') comprising a three-dimensional porous **latex**-derived biostructure (BS') with at least one incorporated (II), either deposited on a porous substrate or having BS' comprising at least two portions of different pore sizes;

(2) a method for making (A), comprising depositing at least one

latex in two separate layers (forming a multilayer microstructure) and depositing (II), optionally in combination with a **latex**, so that (II) becomes incorporated into the microstructure, provided that at least one **latex** forms a non-porous component; and

(3) a **composite biological device** (A'')

for **detecting** a **metal** that comprises a BS that includes at least one (II) which, in contact with **metal**, produced a response and emits a signal.

USE - (A) are used to **detect** analytes in a sample (claimed), for example, environmental pollutants (particularly **metals** and specifically **mercury**) and for drug screening. (A) may also be used as chemical catalysts (for production of drugs and fine chemicals), for implantation into mammals, birds or fish, for bioelectronic or biosensor applications (including single-use **devices** or those that can be released into the environment), in bioconversion of waste **materials** and to analyze changes in gene expression or metabolic response to altered conditions.

ADVANTAGE - The range of applications for (II) is increased by incorporating them as integral components into (A).

Dwg.0/19

L16 ANSWER 15 OF 36 MEDLINE DUPLICATE 3

ACCESSION NUMBER: 2001157258 MEDLINE
DOCUMENT NUMBER: 21118617 PubMed ID: 11227439
TITLE: Determination of **mercury** in crude oil by in-situ thermal decomposition using a simple lab built system.
AUTHOR: Liang L; Lazoff S; Horvat M; Swain E; Gilkeson J
CORPORATE SOURCE: Cebam Analytical, Inc., Seattle, WA 98103, USA.. lliang@aquaticresearchinc.com
SOURCE: FRESENIUS JOURNAL OF ANALYTICAL CHEMISTRY, (2000 May) 367 (1) 8-11.
Journal code: 9114077. ISSN: 0937-0633.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
ENTRY MONTH: 200103
ENTRY DATE: Entered STN: 20010404
Last Updated on STN: 20010404
Entered Medline: 20010322

AB A simple system based on thermal **decomposition** for the one step determination of **mercury** has been built. This system was applied to the analysis of crude oil and related products. Samples were directly introduced into the system without the use of chemicals and digestion procedures. After 4 min, matrices and **mercury** compounds were decomposed, and elemental **mercury** was collected on a gold sand trap, and then **detected** by atomic fluorescence spectroscopy (AFS). In principle, any sample can be analyzed by this method provided the sample can be introduced into the system quantitatively. The method **detection** limit was approximately 0.2 ng/g for 0.04 g of crude oil introduced to the system. Various other samples including, **biological**, environmental, and general merchandise have been analyzed. Results obtained have been compared with established traditional methods including radiochemical neutron activation analysis (RNAA). Good agreement of results between methods was found. Recoveries were close to 100% for certified reference **materials**. Results were independent of **mercury** species and sample types.

L16 ANSWER 16 OF 36 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2000-105619 [09] WPIDS
CROSS REFERENCE: 2000-422960 [35]; 2000-442037 [35]; 2000-442039 [35]; 2001-181380 [07]
DOC. NO. CPI: C2000-031670
TITLE: Analysis of selected regions of immobilized biological material, using photoresist to reveal the target regions, e.g. for tumor diagnosis.
DERWENT CLASS: A21 A89 A96 B04 D16 G06 J04 L03
INVENTOR(S): ZEBALA, J A
PATENT ASSIGNEE(S): (SYNT-N) SYNTRIX BIOCHIP
COUNTRY COUNT: 84
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9961653	A2	19991202	(200009)*	EN	118

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

AU 9942184	A	19991213	(200020)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9961653	A2	WO 1999-US11910	19990527
AU 9942184	A	AU 1999-42184	19990527

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9942184	A	Based on	WO 9961653

PRIORITY APPLN. INFO: US 1998-110529P 19981201; US 1998-85302 19980527; US 1998-110527P 19981201; US 1998-110528P 19981201

AN 2000-105619 [09] WPIDS
CR 2000-422960 [35]; 2000-442037 [35]; 2000-442039 [35]; 2001-181380 [07]
AB WO 9961653 A UPAB: 20010402
NOVELTY - Novel method for analyzing a discrete region of a **biological material** (A) by irradiating a photoresist (B) coated on a first region of (A), which is immobilized on a substrate, then analyzing the exposed region for presence or absence of a substance of interest (I).

DETAILED DESCRIPTION - Method for analyzing a discrete region of a **biological material** (A) comprises:

(i) irradiating a photoresist (B), coated on a first region of (A), which is immobilized on a substrate; then

(ii) analyzing the exposed region for presence or absence of a substance of interest (I).

(B) may be a positive photoresist and irradiation removes it from the first region, but not from a second region, or it is a negative photoresist and irradiation then removes it from the second region but not from the first. INDEPENDENT CLAIMS are also included for the following:

(1) (A), immobilized on a substrate and with at least one region covered by (B) and a second region not covered by (B), with (A) being a tissue, cell, virus, (peptide) nucleic acid, poly- or mono-saccharide, lectin or lipid;

(2) any (A) covalently linked to a substrate and with one region covered by (B) and another region not so covered; and

(3) apparatus for targeted irradiation of (A) on a substrate.

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - The method is used for regional analysis of (A), i.e. to determine position-**composition** relationships in studies of e.g. mosaicism, clonal evolution of cancers, cell-cell communication, tissue-specific gene expression etc. Some particular applications are as follows:

(i) cancer diagnosis by analyzing DNA from particular subtypes of cells, to **detect** genetic alterations;

(ii) assessing biodistribution or accumulation of pharmacological or toxic agents;

(iii) in comparative genomic hybridization;

(iv) preparation of molecular electronic **devices**; and

(v) immobilization of (labeled) (A) in a pattern on a surface by molecular recognition.

ADVANTAGE - The system provides precise and specific analysis of discrete (including very small) regions of (A), overcoming problems of interference from normal cells. A wide variety of (I) can be **detected** on the same sample (simultaneously or separately) and the process (and interpretation of results) can be automated.

Dwg.0/18

L16 ANSWER 17 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-021952 [02] WPIDS
CROSS REFERENCE: 1993-117145 [14]; 2000-180948 [08]
DOC. NO. NON-CPI: N2000-016234
DOC. NO. CPI: C2000-005231
TITLE: Solid or powdered preservative and fixative composition for biological materials especially for microscopic examination.
DERWENT CLASS: B04 D22 E19 J04 S03
INVENTOR(S): CAMIENER, G W
PATENT ASSIGNEE(S): (CAMI-I) CAMIENER G W
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5977153	A	19991102	(200002)*		7

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 5977153	A	Cont of	US 1991-762307	19910920
		CIP of	US 1993-160285	19931202
		Cont of	US 1995-435130	19950505
			US 1997-912364	19970818

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 5977153	A	CIP of	US 5439667

PRIORITY APPLN. INFO: US 1995-435130 19950505; US 1991-762307 19910920; US 1993-160285 19931202; US 1997-912364 19970818

AN 2000-021952 [02] WPIDS

CR 1993-117145 [14]; 2000-180948 [08]

AB US 5977153 A UPAB: 20000330

NOVELTY - Solid or powdered preservative and/or fixative composition for biological materials comprising a preservative, fixative or embalming agent and a stabilizer having at least one citric acid, alkane sulfonic acid, glycolic acid , salicylic acid or their salts as polar groups, is new.

DETAILED DESCRIPTION - Solid or powdered preservative and/or fixative composition (I) for biological materials comprises:

(a) a preservative, fixative or embalming agent having at least one butanedialdehyde or diazolidinyl urea reactive group; and

(b) a stabilizer having at least one citric acid, alkane sulfonic acid, glycolic acid , salicylic acid or their salts as polar groups.

The ratio of the active group of (a) to the polar groups being at least 0.8 to 1 and the ingredients are released in active form when the composition is contacted with an aqueous liquid.

INDEPENDENT CLAIMS are also included for:

(i) a process for preserving, fixing or stabilizing biological material for microscopic examination comprising adding an aqueous liquid to a solid or powdered composition to release the ingredients in active form; and

(ii) a composition comprising a preservative or fixative having at least one glyoxal, butanedialdehyde or diazolidinyl urea reactive group and (b) as above.

The ratio of the active group of (a) to the polar groups being at least 0.8 to 7.

USE - (I) is used as a solid or powdered preservative, embalming and/or fixative composition for biological materials e.g. from human, animal and plant sources such as cells, tissues, organs, organisms, whole bodies, parasites, parasite eggs, blood, urine and fecal samples, especially for material for microscopic examination.

ADVANTAGE - The solid compositions are stable facilitating transport, shipping and long term storage.

Dwg.0/0

L16 ANSWER 18 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2000:30497 BIOSIS

DOCUMENT NUMBER: PREV200000030497

TITLE: Simultaneous calibrationless determination of zinc, cadmium, lead, and copper by flow-through stripping chronopotentiometry.

AUTHOR(S): Beinrohr, Ernest (1); Cakrt, M.; Dzurov, J.; Jurica, L.; Broekaert, J. A. C.

CORPORATE SOURCE: (1) Department of Analytical Chemistry, Slovak Technical University, SL-812 37, Bratislava Slovakia

SOURCE: Electroanalysis, (Nov., 1999) Vol. 11, No. 15, pp. 1137-1144.
ISSN: 1040-0397.

DOCUMENT TYPE: Article

LANGUAGE: English

SUMMARY LANGUAGE: English
AB Zn, Cd, Pb and Cu are deposited in a porous flow-through electrode plated with **mercury** and then are stripped by constant current while the stripping time is **measured**. Since complete electrochemical deposition can be achieved, the analyte concentrations can be directly obtained from Faraday's laws i.e., the method is denoted as calibrationless. The influence of the deposition potential, stripping current, carrier electrolyte **composition**, Cu content and sample matrix was investigated. The optimum conditions are: deposition potential: -1600 mV, stripping current: 200 muA, carrier electrolyte: 0.1 mol/L sodium sulfate at pH 4-5. The dynamic range of the method is from about 0.1 ng/mL to few mg/mL. The repeatability of the method is 1-2% in the optimum concentration range. The procedure was applied to the analyses of water samples, geological, and **biological materials**.

L16 ANSWER 19 OF 36 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 1999285334 MEDLINE
DOCUMENT NUMBER: 99285334 PubMed ID: 10356846
TITLE: Decomposition of fish samples for determination of **mercury**.
AUTHOR: Prester L; Juresa D; Blanusa M
CORPORATE SOURCE: Institute for Medical Research and Occupational Health, Zagreb, Croatia.. ljprester@imi.hr
SOURCE: ARHIV ZA HIGIJENU RADA I TOKSIKOLOGIJU, (1998 Dec) 49 (4) 343-8.
Journal code: 0373100. ISSN: 0004-1254.
PUB. COUNTRY: Croatia
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199906
ENTRY DATE: Entered STN: 19990714
Last Updated on STN: 19990714
Entered Medline: 19990625
AB The aim of the study was to compare the efficiency of acid and alkaline **decomposition** of **biological materials** using an open and a closed system for total **mercury** determination. Acid digestion was performed with concentrated HNO3 in tubes at 80 degrees C and lasted five hours. Alkaline digestion was performed with a 45% NaOH and a 1% cysteine, heated at 120 degrees C for 20 minutes. Total **mercury** was **measured** by atomic absorption spectrometry using the cold vapour technique (CVAAS). The average recovery obtained for analysis of certified reference **material** in closed tubes for acid digested sample was superior to the alkaline one, 103 +/- 4% vs. 70 +/- 3%, respectively. In addition, the recoveries through the open system acid digestion (90 +/- 8%) and the open system alkaline digestion (57 +/- 2%) were lower than through the respective closed system digestions. Reproducibility of the acid **decomposition** method was superior to the alkaline one.

L16 ANSWER 20 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
ACCESSION NUMBER: 1998:325198 BIOSIS
DOCUMENT NUMBER: PREV199800325198
TITLE: In situ microbial ecology for quantitative appraisal, monitoring, and risk assessment of pollution remediation in soils, the subsurface, the rhizophere and in biofilms.
AUTHOR(S): White, David C. (1); Flemming, Cecily A.; Leung, Kam T.;

Macnaughton, Sarah J.
CORPORATE SOURCE: (1) Cent. Environ. Biotechnol., Univ. Tennessee, Knoxville, TN 37932-2575 USA
SOURCE: Journal of Microbiological Methods, (April, 1998) Vol. 32, No. 2, pp. 93-105.
ISSN: 0167-7012.
DOCUMENT TYPE: Article
LANGUAGE: English
AB Numerous studies have established a relationship between soil, sediment, surface biofilm and subsurface contaminant pollution and a marked impact on the in situ microbial community in both microcosms and in the field. The impact of pollution on the in situ microbial community can now be quantitatively **measured** by molecular 'fingerprinting' using 'signature' biomarkers. Such molecular fingerprinting methods can replace classical **microbiological** techniques that relied on isolation and subsequent growth of specific microbes from the in situ microbial community. Classical methods often revealed less than 1% of the extant microbial communities. Molecular fingerprinting provides a quantitative **measure** of the in situ viable microbial biomass, community **composition**, nutritional status, relative frequency of specific functional genes, nucleic acid polymers of specific microbes, and, in some cases, the community **metabolic activity** can be inferred. Current research is directed at establishing correlations between contaminant disappearance, diminution in toxicity, and the return of the viable biomass, community **composition**, nutritional status, gene patterns of the in situ microbial community towards that of the uncontaminated soil, sediment or subsurface **material** with the original uncontaminated microniche environments. Compared to the current reliance on disappearance of pollutants and associated potentially toxic products for **detection** of effective and quantitative bioremediation, assessment of the in situ microbial community will be an additional and possibly more convincing risk assessment too). The living community tends to accumulate and replicate toxic insults through multiple interactions within the community, which may then effect viable biomass, community **composition**, nutritional status, community **metabolic activities**, and specific nucleic acid polymer patterns.

L16 ANSWER 21 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1997:16758 BIOSIS
DOCUMENT NUMBER: PREV199799315961
TITLE: Sedimentary organic matter and micro-meiobenthos with relation to trophic conditions in the tropical northeast Atlantic.
AUTHOR(S): Relexans, J.-C. (1); Deming, J.; Dinet, A.; Gaillard, J.-F.; Sibuet, M.
CORPORATE SOURCE: (1) Lab. d'Oceanographie Biol., Univ. Bordeaux 1, CNRS-URA 197, Ave. des Fac. 33405 Talence Cedex France
SOURCE: Deep-Sea Research Part I Oceanographic Research Papers, (1996) Vol. 43, No. 8, pp. 1343-1368.
ISSN: 0967-0637.
DOCUMENT TYPE: Article
LANGUAGE: English
AB The **biological** and chemical characteristics of sediments sampled during the EUMELI cruise in the tropical northeast Atlantic are presented. These sediments are representative of three different trophic conditions prevailing in surface waters off the Mauritanian coast: EUtrophic, MEsotrophic and oLIgotrophic. The benthic response to surface primary

production, considered as the main supply of biogenic **material** to the sea floor, was evaluated through the qualitative and quantitative analysis of: (i) the **composition** of the sedimentary organic matter; (ii) the biomass of the micro- and meiobenthos; and (iii) the benthic **metabolic activity**. The bacterial biomass (17.5 mu-g cm-2 at the oligotrophic site and 64.5 mu-g cm-2 at the mesotrophic site) the meiofauna biomass (1.12, 4.34 and 9.63 mu-g cm-2 at the oligo-, meso- and eutrophic sites, respectively), the respiratory potential (ETS) and the utilization of labeled amino acids by heterotrophic microbenthos are germane tracers of the benthic response. However, their relative variations between the three different sites are reduced in comparison to the carbon fluxes **measured** or estimated at the sediment-water interface. Sedimentary organic carbon and biopolymer analysis show still further reduced variations between the three environments. In order to better distinguish the three different oceanographic provinces, it is more suitable to integrate the various properties investigated over depth in sediment than to consider surficial characteristics. We conclude from our multi-parameter approach that micro-meiobenthos may be more efficient utilizers of the vertical carbon supply than their counterparts in rich shallower zones.

L16 ANSWER 22 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6

ACCESSION NUMBER: 1996:116538 BIOSIS
DOCUMENT NUMBER: PREV199698688673
TITLE: Anodic stripping voltammetric determination of total lead in anencephalic fetuses after pressure/temperature-controlled microwave mineralization.
AUTHOR(S): Tahan, Jorge E.; Marcano, Lorenia; Romero, Romer A. (1)
CORPORATE SOURCE: (1) Lab. de Instrumentacion Analitica, Dep. de Quimica, Fac. Experimental de Ciencias, La Univ. del Zulia, Apartado Postal 15202, Las Delicias, Maracaibo 4003-A Venezuela
SOURCE: Analytica Chimica Acta, (1995) Vol. 317, No. 1-3, pp. 311-318.
ISSN: 0003-2670.
DOCUMENT TYPE: Article
LANGUAGE: English

AB The development of a closed-vessel mineralization method for the **decomposition** of brain, liver, kidney and lung specimens of anencephalic (A) fetuses and controls (C) from the eastern coast of lake Maracaibo, Venezuela, is presented. Digestion was done in a laboratory microwave oven provided with pressure sensing tube and fiberoptic temperature probe to monitor and control pressure and temperature conditions inside the lined digestion vessels. Total lead was subsequently determined by differential pulse anodic stripping voltammetry (DPASV) with a hanging **mercury** drop electrode, The optimized conditions for maximal pressure and temperature set up were 1260 kPa and 190 degree C. Three samples and one blank were routinely prepared for simultaneous digestion. After sample mineralization, the lead oxidation peak appeared at a potential of -0.45 V vs. Ag/AgCl, pH 4.70. Lead concentrations obtained by DPASV analysis of the mineralized **biological materials** were compared with those provided by electrothermal atomization atomic absorption spectrometry (ETA-AAS) on the same digestion samples. The correlation between the two methods was excellent: y = 1. 142 x - 0.0035, r = 0.9999, n = 40, p lt 0.001, where y and x were the lead concentrations determined by DPASV and ETA-AAS, respectively. For the DPASV determination of total lead, precision (R.S.D.) was better than 3.8%, for within- and between-run analyses. The **detection** limit

of the electrochemical method, defined as three times the standard deviation of a blank solution, was 0.03 mu-g Pb g-1 (in solid sample), equivalent to 0.1 mu-g Pb l-1 in the diluted test portions. The dry-weight **metal** concentrations (+- 1 S.D., mu-g g-1) found in brain, liver, kidney and lung were as follows: (brain, **undetectable** in A and in C; liver, 2.1 +- 1.1 in A, 0.5 +- 0.2 in C; right lung, 1.1 +- 0.8 in A, 0.6 +- 0.1 in C; left lung, 0.6 +- 0.2 in A, 0.7 +- 0.1 in C; right kidney, 1.4 +- 0.7 in A, 1.5 +- 0.03 in C and left kidney, 1.7 +- 0.9 in A, 0.7 +- 0.2 in C). The proposed DPASV method constitutes an analytical alternative. as reliable as ETA-AAS, for the voltammetric determination of total lead in solid samples.

L16 ANSWER 23 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 94291655 EMBASE
DOCUMENT NUMBER: 1994291655
TITLE: Cathodic stripping potentiometric determination of selenium in biological and environmental materials.
AUTHOR: Adeloju S.B.; Young T.M.
CORPORATE SOURCE: Centre Electrochemical Research, Department Chemistry, University of Western Sydney, P.O. Box 10,Kingswood, NSW 2747, Australia
SOURCE: Analytica Chimica Acta, (1994) 296/1 (69-76).
ISSN: 0003-2670 CODEN: ACACAM
COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
046 Environmental Health and Pollution Control
052 Toxicology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The use of cathodic stripping potentiometry for the reliable determination of trace and ultra trace concentrations of selenium in environmental and **biological** samples on a glassy carbon **mercury** film electrode is described. The optimum conditions for the method include 3 M HCl as supporting electrolyte, an electrolysis potential of - 100 mV vs. SCE, a constant reduction current of -20 .mu.A and the **decomposition** of the samples by dry ashing with magnesium nitrate as an ashing aid. Under these conditions, the **detection** limit is 0.8 .mu.g/l with an electrolysis time of 5 min or 0.04 .mu.g/l with 60 min deposition. The relative standard deviation for the **measurement** at this level is 6% (n = 7). The presence of inorganic and organic substances such as lead, copper, cadmium, zinc, CTMAB, LAS, LPC and Triton X-100 caused some suppression of the selenium peak, but these effects were easily circumvented by the use of standard additions method and a UV-irradiation procedure. The W-irradiation of the digested environmental and **biological materials** was also effective in reducing the required dry ashing period to 1 h, as well as in improving the sensitivity and accuracy of the method.

L16 ANSWER 24 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1993-383781 [48] WPIDS
DOC. NO. NON-CPI: N1993-296348
DOC. NO. CPI: C1993-170818
TITLE: Prepn. of immunological coagulating particle, having high detection sensitivity - by sensitising support made of non-biological particles and treated with non-polar aminoacid aq. soln., with antigen or antibody.

DERWENT CLASS: A96 B04 D16 J04 S03
PATENT ASSIGNEE(S): (TOKU) TOKUYAMA SODA KK
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 05288750	A	19931102	(199348)*		6

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 05288750	A	JP 1992-89204	19920410

PRIORITY APPLN. INFO: JP 1992-89204 19920410
AN 1993-383781 [48] WPIDS
AB JP 05288750 A UPAB: 19940120
A support made of non-**biological** particles is sensitised with an antigen or an antibody to obtain a sensitised support. The support is treated with an aq. soln. of a non-polar amino acid(s).

Pref. the sensitisation is effected in the presence of a nonpolar amino acid(s). Pref. the **materials** for the support include polystyrene **latex**, kaolin, C, organic-inorganic **composite** particles prepd. by treating inorganic particles with organic cpd(s) and gelatin particles esp. **composite** particles. The sensitising substances include proteins, sugar proteins, lipoproteins, lipids and nucleic acids. Antigens are pref. hydrophobic. Antibodies include KgG, IgM, IgA, IgD, and IgE. The sensitisation is effected by adding the support and antibody in a phosphate buffer soln. in a ratio of 0.01-50 mg antibody/g support and sensitising at 4-56 deg.C pref. room temp. for 1 hr. or longer.

USE/ADVANTAGE - The particles has high **detection** sensitivity with reduced non-specific coagulation reactions. An immunological coagulating reagent contg. the particle reduces the dia. of the negative image by 30-70% compared with that of the image obtd. without treatment with amino acid(s), resulting in high contrast between positive and negative images.
Dwg.0/0

L16 ANSWER 25 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1993-412105 [51] WPIDS
DOC. NO. NON-CPI: N1993-318631
DOC. NO. CPI: C1993-184098
TITLE: Determn. of phase compsn. of biological materials in cryoscopic storage - comprises cooling sample, applying external deforming force, and recording its plastic deformation during continuous thawing out.
DERWENT CLASS: B04 D22 S03
INVENTOR(S): GURINA, T M; OSETSKII, A I; VASILOVSKII, V YU
PATENT ASSIGNEE(S): (ASCR-R) AS USSR CRYOBIOLOGY CRYOMEDICINE INST
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
SU 1780001	A1	19921207	(199351)*		4

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
SU 1780001	A1	SU 1991-4903585	19910121

PRIORITY APPLN. INFO: SU 1991-4903585 19910121
AN 1993-412105 [51] WPIDS
AB SU 1780001 A UPAB: 19940209
Phase compsn. of biological objects such as tissues, cell suspensions, etc. in cryoscopic storage, is determined more efficiently as follows: the object is frozen, external deforming force applied to it, and its plastic deformation recorded continuously during thawing. The thermoplastic curves obtd. show the temp. intervals of existence of various phase states.
ADVANTAGE - Increased accuracy, greater amount of information is obtd. Bul. 45/7.12.92
Dwg.0/2

L16 ANSWER 26 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 7
ACCESSION NUMBER: 1991:497027 BIOSIS
DOCUMENT NUMBER: BA92:119987
TITLE: CAPILLARY COLUMN GAS CHROMATOGRAPHY FOR **MERCURY** SPECIATION.
AUTHOR(S): BULSKA E; BAXTER D C; FRECH W
CORPORATE SOURCE: DEP. ANALYTICAL CHEMISTRY, UNIV. UMEA, S-901 87 UMEA, SWEDEN.
SOURCE: ANAL CHIM ACTA, (1991) 249 (2), 545-554.
CODEN: ACACAM. ISSN: 0003-2670.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB The determination of methyl-and ethylmercury halides in environmental and **biological** samples typicaly involves gas chromatography with electron-**detection**. However, these organomercury halides are notorious for their poor chromatographic characteristics (severe tailing, **decomposition**, low column efficiencies) on packed columns. The problems can be temporarily alleviated by column passivation using a concentrated organic solution of **mercury**(II) chloride. Attempts to use capillary columns instead, to improve the chromatographic behaviour of organomercury halides, have met with mixed success, and the results presented generally show poorer performance than that obtained using packed columns, even after passivation. To eliminate the problem as its source (the polar **mercury**-halide bond), it is proposed to butylate the **mercury** species with a Grignard reagent to yield the non-polar dialkyl derivatives. As the electron-capturing halide moiety is absent from these derivatives, **mercury**-specific **detection** in necessary, and a microwave-induced plasma emission **detector** is utilized. In combination with capillary gas chromatography, unprecedented column and separation efficiencies for methyl- and ethylmercury are achieved. The practical utility of the method is illustrated in a preliminary application to the determination of **mercury** species in a fish tissue reference **material** after extraction and butylation.

L16 ANSWER 27 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1990-193516 [25] WPIDS

DOC. NO. NON-CPI: N1990-150534
DOC. NO. CPI: C1990-083743
TITLE: Micro-fabricated bio-sensor clinical assay - comprises perm selective layer and layer contg. bioactive cpd., e.g. enzyme in support matrix on base sensor.
DERWENT CLASS: A26 A89 B04 D16 J04 Q39 S03 S05
INVENTOR(S): COZZETTE, S N; DAVIS, G; ITAK, J A; LAUKS, I R; MIER, R M; PIZNIK, S; SMIT, N; STEINER, S J; VAN DER WERF, P; WIECK, H J; VANDERWERF, P; ITAK, J; STEINER, S
PATENT ASSIGNEE(S): (ISTA-N) I STAT CORP; (COZZ-I) COZZETTE S N; (ISTA-N) I-STAT CORP; (MIER-I) MIER R M
COUNTRY COUNT: 17
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9005910	A	19900531	(199025)*		198
RW: AT BE CH DE FR GB IT LU NL SE					
W: JP KR					
CA 2002848	A	19900514	(199029)		
EP 442969	A	19910828	(199135)		198
R: AT BE CH DE FR GB IT LI LU NL SE					
US 5063081	A	19911105	(199147)		61
JP 04503249	W	19920611	(199230)		68
US 5200051	A	19930406	(199316)		63
US 5212050	A	19930518	(199321)		
TW 219975	A	19940201	(199413)		
EP 442969	A4	19930512	(199526)		
US 5466575	A	19951114	(199551)		61
US 5554339	A	19960910	(199642)		61
SG 45431	A1	19980116	(199812)		
US 5837446	A	19981117	(199902)		
US 5837454	A	19981117	(199902)		
CA 2002848	C	19990831	(200002)	EN	
JP 2000065791	A	20000303	(200023)		61
KR 175917	B1	19990515	(200052)		
JP 3105919	B2	20001106	(200059)		71
CA 2221178	C	20010123	(200108)	EN	
JP 3137612	B2	20010226	(200114)		61
US 6306594	B1	20011023	(200165)		
EP 442969	B1	20020227	(200215)	EN	
R: AT BE CH DE FR GB IT LI LU NL SE					
DE 68929373	E	20020404	(200230)		
US 2002090738	A1	20020711	(200248)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9005910	A		WO 1989-US5227	19891113
EP 442969	A		EP 1990-900548	19891113
US 5063081	A		US 1990-567870	19900815
JP 04503249	W		WO 1989-US5227	19891113
			JP 1990-500757	19891113
US 5200051	A	CIP of	US 1988-270171	19881114
		CIP of	US 1989-381223	19890713
			US 1989-432714	19891107
US 5212050	A	CIP of	US 1988-270171	19881114

		CIP of	US 1989-381223	19890713
		Div ex	US 1989-432714	19891107
			US 1990-568441	19900815
TW 219975	A		TW 1989-108791	19891115
EP 442969	A4		EP 1990-900548	
US 5466575	A	CIP of	US 1988-270171	19881114
		CIP of	US 1989-381223	19890713
		Div ex	US 1989-432714	19891107
			US 1992-943345	19920910
US 5554339	A	CIP of	US 1988-270171	19881114
		CIP of	US 1989-381223	19890713
		Div ex	US 1989-432714	19891107
		Div ex	US 1992-943345	19920910
			US 1993-109507	19930819
SG 45431	A1		SG 1996-7856	19891113
US 5837446	A	CIP of	US 1988-270171	19881114
		CIP of	US 1989-381223	19890713
		Div ex	US 1989-432714	19891107
		Div ex	US 1992-943345	19920910
			US 1995-482517	19950607
US 5837454	A	CIP of	US 1988-270171	19881114
		CIP of	US 1989-381223	19890713
		Div ex	US 1989-432714	19891107
		Div ex	US 1992-943345	19920910
			US 1995-484095	19950607
CA 2002848	C		CA 1989-2002848	19891114
JP 2000065791	A	Div ex	JP 1990-500757	19891113
			JP 1999-38753	19891113
KR 175917	B1		WO 1989-US5227	19891113
			KR 1990-701519	19900714
JP 3105919	B2		WO 1989-US5227	19891113
			JP 1990-500757	19891113
CA 2221178	C	Div ex	CA 1989-2002848	19891114
			CA 1989-2221178	19891114
JP 3137612	B2	Div ex	JP 1990-500757	19891113
			JP 1999-38753	19891113
US 6306594	B1	CIP of	US 1988-270171	19881114
		CIP of	US 1989-381223	19890713
		Div ex	US 1989-432714	19891107
		CIP of	US 1992-943345	19920910
		Div ex	US 1995-484095	19950607
			US 1998-193370	19981117
EP 442969	B1		WO 1989-US5227	19891113
			EP 1990-900548	19891113
DE 68929373	E		DE 1989-629373	19891113
			WO 1989-US5227	19891113
			EP 1990-900548	19891113
US 2002090738	A1	CIP of	US 1988-270171	19881114
		CIP of	US 1989-381223	19890713
		Div ex	US 1989-432714	19891107
		Div ex	US 1992-943345	19920910
		Div ex	US 1995-484095	19950607
		Cont of	US 1998-193370	19981117
			US 2001-941661	20010830

FILING DETAILS:

PATENT NO	KIND	PATENT NO

JP 04503249	W	Based on	WO 9005910
US 5466575	A	Div ex	US 5200051
US 5554339	A	Div ex	US 5200051
		Div ex	US 5466575
US 5837446	A	Div ex	US 5200051
		Div ex	US 5466575
US 5837454	A	Div ex	US 5200051
		Div ex	US 5466575
JP 3105919	B2	Previous Publ.	JP 04503249
		Based on	WO 9005910
JP 3137612	B2	Previous Publ.	JP 2000065791
US 6306594	B1	Div ex	US 5200051
		CIP of	US 5466575
		Div ex	US 5837454
EP 442969	B1	Based on	WO 9005910
DE 68929373	E	Based on	EP 442969
		Based on	WO 9005910

PRIORITY APPLN. INFO: US 1989-432714 19891107; US 1988-270171 19881114; US 1989-381223 19890713; US 1990-567870 19900815; US 1990-568441 19900815; US 1992-943345 19920910; US 1993-109507 19930819; US 1995-482517 19950607; US 1995-484095 19950607; US 1998-193370 19981117; US 2001-941661 20010830

AN 1990-193516 [25] WPIDS

AB WO 9005910 A UPAB: 20011217

Microfabricated biosensor comprises (1) a base sensor; (2) permselective layer over at least part of the base, thick enough to exclude molecules of mol. wt. over 120 but allowing free passage of cpds. of mol. wt. 50 or less; and (3) a biolayer over at least part of the permselectivee layer. This layer contains a bioactive cpd. (I) which interacts specifically with a particular analyte (A) and incorporated into a support matrix which is a photo-formable proteinaceous mixt. and/or film-forming **latex**. (A) can permeate freely through the matrix to interact with (A). Alternatively biolayer (3) is replaced by a layer of immobilised ligand receptor (opt. deposited on a photoresist layer of proteinaceous mixt.) Wafers carrying several such sensors on planar substrates, and the various components of the sensor are also claimed.

More specifically, the permselective layer is a polymer film or a heat-treated film of the silane (R')nSi(OR)4-n (n = 0-2; R' = 3-12C hydrocarbonand-R R' = 3-12C hydrocarbon; and R = H or 1-4C alkyl). Opt. an electrolyte layer is present between base sensor and the selective layer; an analyte attenuation layer covers part of the biolayer and a photoresist cap can be applied over this.

USE/ADVANTAGE - These sensors are useful for clinical analysis (including immunoassay) and can be produced reproducibly on a large scale. Dwg.2/18

ABEQ JP 04503249 W UPAB: 19930928

Microfabricated biosensor comprises a base sensor; permselective layer over at least part of the base, thick enough to exclude molecules of mol.wt. over 120 but allowing free passage of cpds. of mol. wt. 50 or less; and a **biolayer** over at least part of the permselective layer. This layer contains a bioactive cpd. (I) which interacts specifically with a partic. analyte (A) and incorporated into a support matrix which is a photo-formable proteinaceous mixt. and/or film-forming **latex**. (A) can permeate freely through the matrix to interact with

(A).

Alternatively, **biolayer** is replaced by a layer of immobilised ligand receptor (opt. deposited on a photoresist layer of proteinaceous mixt.). Wafers carrying several such sensors on planar substrates, and the various componentJP4503249A - Ws of the sensor are also claimed.

More specifically, the permselective layer is a polymer film or a heat-treated film of the silane (R')nSi(OR)4-n (n = 0-2; R' = 3-12C hydrocarbon and -R, R' = 3-12C hydrocarbon; and R = H or 1-4C alkyl). Opt. an electrolyte layer is present between base sensor and the selective layer; an analyte attenuation layer covers part of the **biolayer** and a photoresist cap can be applied over this.

USE/ADVANTAGE - Useful for clinical analysis (including immunoassay) and can be produced reproducibly on a large scale.

0/18

ABEQ US 5063081 A UPAB: 19930928

Prodn. of a multisensor **device** comprises mounting numerous base sensors on a suitable substrate wafer, pref. with an adjacent electrolyte **compsn.**; application of a selectively permeable film on at least part of each base sensor, such that molecules with Mr up to about 50 but not molecules with Mr above 120 can permeate to the base sensors; then application of a photoresist layer having a photoformable proteinaceous **compsn.**, covering a substantial region of the permeable film; and application of an outer film of immobilised ligand receptors, pref. immunoreactive species.

USE - The prods. are micro-electrochemical sensors for the rapid determination of a wide range of biochemical and clinical analytes.

ABEQ US 5200051 A UPAB: 19930928

Microbiosensor comprises a microsensor system, e.g. an amperometric or potentiometric electrochemical transducer having an indicator electrode, a reference electrode and immobilised electrolyte film; covered at least in part by a selectively permeable polymer film that is thick enough to exclude larger molecules (Mr above 120) but not smaller molecules or ions (Mr less than about 50); which in turn is coated at least in part with a **biolayer** contg. a **biologically** active species that reacts specifically with an analyte dispersed in a supporting matrix (a photoformable proteinaceous component or a film-forming **latex**) which is completely porous to the analyte.

USE - The prods. facilitates rapid analysis, e.g. for clinical diagnosis.

2/16

ABEQ US 5212050 A UPAB: 19931114

A method for forming a permselective layer on preselected areas of a substantially planar sensing **device** comprises: (a) establishing a photoresist layer on a substantially planar sensing **device**; (b) processing the photoresist layer using photolithographic techniques to expose preselected areas of the sensing **device**; (c) establishing at least one film comprising a silane compound mixed with a suitable solvent on the sensing **device** of step (b), the compound having the formula R'nSi(OR)4-n, in which n is an integer selected from the group consisting of 0, 1, and 2; R'is a hydrocarbon radical comprising 3-12 carbon atoms; and R is a hydrogen radical or a lower alkyl radical comprising 1-4 carbon atoms; and (d) heating the film to a temperature of at least about 100 deg. C. for a period of time effective to form a permselective layer having a thickness of about 1 to about 1000 nm sufficient to provide the permselective layer with the desired semipermeable properties in which molecules having about a first preselected molecular weight or above are substantially precluded from

permeating through the permselective layer, while molecules having about a second preselected molecular weight or below may effectively permeate therethrough; and (e) removing the underlying photoresist layer and the permselective layer overlaid from all except the preselected areas of the sensing **device**.
Dwg.0/0

ABEQ US 5466575 A UPAB: 19951221
Prepn. of many uniform wafer level microfabricated sensing **devices** comprises (a) applying many base sensors on a substrate wafer, (b) applying a permselective layer superimposed over at least part of each base sensor, having a thickness excluding molecules having a mol.wt. over 120 but allowing the free permeation of molecules with a mol.wt. of up to 50, (c) applying a matrix, superimposed over at least part of the permselective layer and each of the base sensors, where the matrix is a photoformable proteinaceous **material**, a film-forming **latex** or their combinations, and which is capable of incorporating a bioactive agent, and (d) incorporating into the matrix an amt. of the bioactive agent sufficient to selectively interact with a particular analyte species to form many uniform wafer level microfabricated sensing **devices**.
The permselective layer comprises a polymer film contg. e.g. an ionophore such as an organic ammonium chloride.
USE - Analysis of **biological** samples e.g. electrochemical **detection** of analytes. May be used non-medically.
ADVANTAGE - Allows close control over the prepn. Mass prodn. is possible.
Dwg.0/18

ABEQ US 5554339 A UPAB: 19961021
A method of establishing a dispensed layer onto a substantially planar surface comprising:
(a) preparing a fluid **composition** suitable for loading into a microsyringe assembly;
(b) loading said fluid **composition** into said microsyringe assembly, which assembly comprises (i) a reservoir for holding said fluid **composition**, (ii) a microsyringe needle, including an elongated member and a needle tip, (iii) means for delivering said fluid **composition** from said reservoir to said microsyringe needle, (iv) means for forcing controlled amounts of said fluid **composition** through said elongated member to form an emerging droplet of a predetermined volume on said needle tip, and (v) means for controlling the multidirectional movement of said assembly such that said droplet may be brought into contact with a preselected area of a substantially planar surface;
(c) treating said surface under conditions sufficient to bring its surface free energy, in terms of its hydrophilicity or hydrophobicity, within a desired range such that the contact angle and thickness of the dispensed fluid **composition** are controlled;
(d) contacting said droplet on said needle tip with a preselected area of said surface; and
(e) retracting said assembly away from said surface such that said droplet disengages from said needle tip in a manner that provides a dispensed layer of said fluid **composition** having predictable and reproducible dimensions on said surface.
Dwg.0/16

L16 ANSWER 28 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 90285050 EMBASE
DOCUMENT NUMBER: 1990285050

TITLE: Changes in poultry litter toxicity with time.
AUTHOR: Gupta G.; Krishnamurthy S.
CORPORATE SOURCE: University of Maryland Eastern Shore, Princess Anne, MD 21853, United States
SOURCE: Bulletin of Environmental Contamination and Toxicology, (1990) 44/4 (579-584).
ISSN: 0007-4861 CODEN: BECTA6
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 046 Environmental Health and Pollution Control
052 Toxicology
LANGUAGE: English
SUMMARY LANGUAGE: English

AB With recent concerns about consumption of red meat and the advancements in poultry breeding, production of poultry (and litter) is increasing nationwide. The shortages and higher costs associated with energy and fertilizers have increased interest in the use of poultry litter as manure. Mean crude protein values of 14, 23 and 30% have been reported for litter on which 1, 2 or 3 successive flocks were raised, respectively (Bandel et al. 1974; Perkins et al. 1964). A ton of dry poultry litter contains about 80 lbs of nitrogen, 50 lbs of phosphate and 40 lbs of potash; samples of poultry litter analyzed by Kunkle et al (1981) also contained 2.4% calcium, 2.65% potassium, 319 mg/kg copper, 35 mg/kg arsenic, 34 mg/kg lead, and smaller amounts of cadmium, **mercury** and selenium. **Composition** of the poultry litter varies depending on the number of flocks raised, type of ration fed, the base **material** used underneath, frequency of cleaning, application of ammonia control and other chemicals and many other factors. The Delmarva Peninsula on the Eastern Shore of Maryland ranks 4th in the nation in poultry and litter production (500 million chickens with an economic value of about $1.2 billion annually). The amount of litter produced is approximately 5.5 tons per 1,000 birds per year. Land application (and or disposal) of this litter may result in pollution of groundwater (Ritter and Chirnside 1984). With rainfall, surface water run-off from land on which poultry litter has been applied (or disposed of) reaches the Chesapeake Bay from this region. The Biochemical Oxygen Demand and the Chemical Oxygen Demand for the poultry litter have been reported to be as high as 24,000 to 255,000 ppm, respectively (Perkins et al. 1964). Leachate from this litter can severely disrupt the aquatic life of any water body and cause fish kills. In addition to these chemicals there are micro-organisms (bacteria and viruses) and antibiotics present in the poultry litter. The die-off rate of fecal organisms from poultry litter was not dependent on soil type or litter application (Crane et al. 1980). Chlorotetracycline, used in poultry feed, was absorbed by soil colloids and/or combined with other organic **materials** (Warman and Thomas 1981). There is no information in the literature on the toxic effects of these chemical and **microbiological** pollutants from poultry litter. The study of the toxic effects of a multitude of substances, as present in the poultry litter, is a complex issue; conventional aquatic toxicity tests using fish may require long time periods of up to 4 wk. Recently, the Microtox toxicity system has been used for the determination of aquatic toxicity for a variety of substances (Ribo 1987; Sanchez et al. 1988). This bioassay method uses the marine luminescent bacterium (Photobacterium phosphoreum) and **measures** the changes in light emission of these bacteria on exposure to a toxic substance. It **measures** the effective concentration of the toxic substance that results in 20%, 50% or 80% decrease in light output (EC20, EC50, or EC80). The EC50 values compare favorably with the traditional LD50; this method

is now accepted by EPA (1987) as one of the bioassay techniques for toxicity monitoring. The objective of this study was to **measure** the changes in EC50, using poultry litter aqueous extracts, with time to simulate varying rainfall durations.

L16 ANSWER 29 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 86167781 EMBASE
DOCUMENT NUMBER: 1986167781
TITLE: [A separation procedure for the determination of Ag, Cd, Hg and Zn in biological material by radiochemical neutron activation analysis].
EIN TRENNVERFAHREN ZUR BESTIMMUNG VON AG, CD, HG UND ZN IN BIOLOGISCHEM MATERIAL DURCH RADIOCHEMISCHE NEUTRONENAKTIVIERUNGSANALYSE.
AUTHOR: Haas H.F.; Krivan V.
CORPORATE SOURCE: Sektion Analytik und Hochstreinigung, Universitat Ulm, D-7900 Ulm/Donau, Germany
SOURCE: Fresenius Zeitschrift fur Analytische Chemie, (1986) 324/1 (13-18).
CODEN: ZACFAU
COUNTRY: Germany
DOCUMENT TYPE: Journal
FILE SEGMENT: 046 Environmental Health and Pollution Control
023 Nuclear Medicine
052 Toxicology
LANGUAGE: German
SUMMARY LANGUAGE: English
AB A simple separation procedure for the determination of Ag, Au, Cd, Hg and Zn in **biological material** by radiochemical neutron activation analysis was developed. It enables the separation of the indicator radionuclides 110mAg, 198Au, 115Cd, 203Hg and 65Zn in a group with yields > 99% and is well suited for the separation of 203Hg from 75Se and 65Zn from 46Sc. The separation of these radionuclides is often necessary because of the occurrence of instrumental interferences in the instrumental neutron activation analysis. Simultaneously, the limits of **detection** for Ag, Au and Cd can significantly be improved. The method is based on the **decomposition** of the sample in the mixture of HNO3/HCl/H2O2 and on the separation of Ag, Au, Cd, Hg and Zn on Dowex 1X8 from a sample solution being 1.5 M with HCl. The applicability of this method is demonstrated by the analysis of lichens and several kinds of fungi. For the experimental conditions used, the limits of **detection** are of the order of magnitude of 10 ng/g.

L16 ANSWER 30 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1984:305705 BIOSIS
DOCUMENT NUMBER: BA78:42185
TITLE: VERTICAL DISTRIBUTION TRANSPORT AND EXCHANGE OF CARBON IN THE NORTHEAST PACIFIC OCEAN EVIDENCE FOR MULTIPLE ZONES OF BIOLOGICAL ACTIVITY.
AUTHOR(S): KARL D M; KNAUER G A
CORPORATE SOURCE: DEPARTMENT OF OCEANOGRAPHY, UNIVERSITY OF HAWAII AT MANOA, HONOLULU, HAWAII 96822, USA.
SOURCE: DEEP-SEA RES PART A OCEANOGR RES PAP, (1984) 31 (3), 221-244.
CODEN: DRPPD5. ISSN: 0198-0149.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB A sediment trap experiment was conducted to investigate the production,

decomposition and transport of organic matter from 0-2000 m at a station of 100 km northeast of Point Sur, California [USA]. Parameters **measured** included rates of autotrophic production of C; vertical depth distributions of total C, N, and living biomass; and downward flux of organic C, N, ATP, RNA and fecal pellets. **Metabolic activity** and microbial growth rates (RNA and DNA synthesis) were also estimated in situ, for both the suspended (i.e., samples captured in standard water bottles) and sinking (i.e., samples captured in sediment traps) particles. Daily depth-integrated rates of primary production averaged 564 mg C m-2, of which 10-15% was removed from the euphotic zone by sinking, assuming steady-state conditions. The profiles of suspended C, N, C:N ratios, and ATP conformed to previously published concentration-depth profiles from the region. The vertical flux profiles of organic matter, revealed 2 important features that were not evident in the suspended particulate matter profiles. First, there was an obvious mid-water depth increase (i.e., an increase in organic C and N flux with increasing depth) between 700 and 900 m, suggesting horizontal advection or in situ production. Similar flux profiles were also observed for ATP, RNA, and total fecal pellets. Second, the C:N ratios for the sediment trap **materials** collected at mid-ocean depths (600-1200 m) were low compared to values **measured** for suspended particulate organic **materials** collected from comparable depths, supporting the in situ production hypothesis. An observed maximum in the rate of RNA and DNA synthesis for microorganisms associated with particles collected at 700 m confirmed that the flux anomalies were the result of in situ **microbiological** processes rather than horizontal advection. The in situ activity **measured** at 700 m is probably the result of a chemolithotrophic-based C production system supported by the presence of reduced inorganic compounds (e.g., NH4+, HS-) found in association with the sinking particles. New carbon production (a value equivalent to the increased downward flux of C) between 700 and 900 m was 15 mg C m-2 day-1, or 2 to 1% of the daily integrated primary production. These regions of intense **biological metabolic activity**, growth, and organic matter diagenesis may have a profound influence on the oceanic C cycle and on the observed steady-state distributions of various nonconservative properties of seawater.

L16 ANSWER 31 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 85045192 EMBASE
DOCUMENT NUMBER: 1985045192
TITLE: Assessment of differential-pulse adsorption voltammetry for the simultaneous determination of nickel and cobalt in biological materials.
AUTHOR: Adeloju S.B.; Bond A.M.; Briggs M.H.
CORPORATE SOURCE: Division of Chemical and Physical Sciences, Deakin University, Waurn Ponds, Vic. 3217, Australia
SOURCE: Analytica Chimica Acta, (1984) VOL. 164/- (181-194).
CODEN: ACACAM
COUNTRY: Netherlands
DOCUMENT TYPE: Journal
FILE SEGMENT: 046 Environmental Health and Pollution Control
052 Toxicology
LANGUAGE: English
AB An assessment of the voltammetric method based on chelate adsorption at the hanging **mercury** drop electrode is described for the simultaneous determination of nickel and cobalt in **biological materials**. The interfacial accumulation of the elements as **metal** dimethylglyoximates during the adsorption step, and the use

of differential-pulse voltammetry during the reduction step, provide substantial gains in the sensitivity of their voltammetric responses. The **decomposition** of the sample **material** by direct dry ashing provides a blank-free approach for the accurate determination of the elements. Application of the method to the available certified **biological** reference **materials** for cobalt and nickel was successful. The limits of **detection** obtained under the conditions of this study were 0.01 .mu.g g-1 and 0.02 .mu.g g-1 for cobalt and nickel, respectively, in bovine liver.

L16 ANSWER 32 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1983-17661K [08] WPIDS
DOC. NO. NON-CPI: N1983-032735
DOC. NO. CPI: C1983-017217
TITLE: High surface area reactive polymers - useful for immobilising biological materials, e.g. enzymes or cells.
DERWENT CLASS: A96 B04 D16
INVENTOR(S): FEIL, C; KRAEMER, D; MARKERT, G; SCHUSTER, E; SIOL, W; SUETTERLIN, N; FELL, C; KRAMER, D; SUTTERLIN, N; SCORDIALO, C
PATENT ASSIGNEE(S): (ROHG) ROEHM GMBH; (ROHG) ROEHM GMBH CHEM FAB; (SIOL-I) SIOL W
COUNTRY COUNT: 14
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 71704	A	19830216	(198308)*	GE	51
R: AT CH FR GB IT LI NL SE					
DE 3130924	A	19830217	(198308)		
JP 58036388	A	19830303	(198315)		
ES 8307880	A	19831101	(198406)		
CA 1212058	A	19860930	(198644)		
EP 71704	B	19861230	(198701)	GE	
R: AT CH FR GB IT LI NL SE					
SU 1655301	A	19910607	(199212)		8
DE 3130924	C	19920730	(199231)		16
JP 05047195	B	19930716	(199331)		18
US 5976527	A	19991102	(199953)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
EP 71704	A		EP 1982-104288	19820515
SU 1655301	A		SU 1982-3470942	19820804
DE 3130924	C		DE 1981-3130924	19810805
JP 05047195	B		JP 1982-135254	19820804
US 5976527	A	Cont of	US 1982-402635	19820728
		Cont of	US 1986-837336	19860228
		Cont of	US 1987-4209	19870105
		Cont of	US 1987-119297	19871106
		Cont of	US 1988-244625	19880912
		Cont of	US 1989-364483	19890608
		Cont of	US 1990-477116	19900207
		Cont of	US 1991-744666	19910809
		Cont of	US 1992-898230	19920612
			US 1992-990554	19921214

FILING DETAILS:

PATENT NO	KIND		PATENT NO
JP 05047195	B	Based on	JP 58036388

PRIORITY APPLN. INFO: DE 1981-3130924 19810805
AN 1983-17661K [08] WPIDS
AB EP 71704 A UPAB: 19930925
A system having high surface area and reactive gps. capable of binding substrates having nucleophilic gps., comprises a polymer **latex** (of which the reactive gps. are components) which is (a) aggregated itself or (b) attached to a carrier of high surface area.

In case (a), the aggregates are prepd. by spray-drying at below the min. film-forming temp. of the **latex**; by freeze-drying or by thermal coagulation, freezing-out or pptn. with electrolytes or solvents. In case (b) the carrier can be organic, e.g. proteins, polyamides or polyesters, or inorganic, e.g. silicates, glass or stainless steel. The **latex** is esp. derived by radical polymerisation of one or more acrylic acid, methacrylic acid, styrene or vinyl acetate monomer.

The materials are esp. useful for immobilising proteins (esp. enzymes), blood components, cells or cell components, and substrates, including those labelled with dyes. They are thus useful as catalysts, diagnostic indicators, affinity chromatography supports, solid-phase supports for peptide synthesis etc. Compsns. to which enzymes, esp. proteases, lipases and/or amylases, are bonded are pharmaceuticals, and the materials may also be used to remove traces of toxic substances from e.g. blood or water.

ABEQ DE 3130924 C UPAB: 19930925
Solid carrier for immobilising substrates having nucleophilic functions comprises an organic or inorganic solid dispersion, e.g., copolymer **latexes** obtd. from mixts. of methacrylamide, ethylene glycol dimethacrylate, glycidyl methacrylate and a lower alkyl methacrylate, or stabilised dispersions of finely divided silica, alumina, other **metal** oxides, glass fibre, etc..

USE - To these dispersions are added aq. solns. of **biologically** active substances, e.g., enzymes, blood factors, hormones, antibodies, antigens, immunoglobulins, etc., and after incubating, the solid carrier contg. the immobilised substrate is opt. pptd. by freezing, addn. of electrolytes or non-solvents, etc..
0/0

ABEQ EP 71704 B UPAB: 19930925
Large surface area systems with active units for bonding substrates containing nucleophilic groups, characterised in that the reactive units bonding the substrates containing the nucleophilic groups are, from the nature of the manufacture, part of a polymer **latex** prepared by emulsion polymerisation which is made up of **latex** particles **measuring** from 0.03 to 6 microns m and the polymer **latex** itself is aggregated to form a large surface area system and/ or is fixed to a carrier **material** with a large surface area.

ABEQ JP 93047195 B UPAB: 19931118
A system having high surface area and reactive gps. capable of binding substrates having nucleophilic gps. comprises a polymer **latex** (of which the reactive gps. are components) which is (a) aggregated itself or (b) attached to a carrier of high surface area.

In case (a), the aggregates are prepd. by spray-drying at below the min. film-forming temp. of the **latex**; by freeze-drying or by

thermal coagulation, freezing-out or pptn. with electrolytes or solvents. In case (b) the carrier can be organic e.g. proteins, polyamides or polyesters or inorganic e.g. silicates, glass or stainless steel. The **latex** is esp. derived by radical stainless steel. The **latex** is esp. derived by radical polymerisation of one or more acrylic acid, methacrylic acid, styrene or vinyl acetate monomer.

The **materials** are esp. useful for immobilising proteins (esp. enzymes), blood components, cells or cell components, and substrates, including those labelled with dyes. They are thus useful as catalysts, diagnostic indicators, affinity chromatography supports, solid-phase suppors for peptide synthesis etc. **Compsns**. to which enzymes esp. proteases, lipases and/or amylases, are bonded are pharmaceuticals and the **materials** may also be used to remove traces of toxic substances from e.g. blood or water. (J58036388-A)

L16 ANSWER 33 OF 36 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1983-833391 [49] WPIDS
DOC. NO. CPI: C1983-117983
TITLE: Immobilising biological material e.g. enzyme - by impregnating vermiculite with aq. medium contg. the material and coating the vermiculite with polymer.
DERWENT CLASS: A96 B04 D16
PATENT ASSIGNEE(S): (GEMX) GENEX CORP
COUNTRY COUNT: 16
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
BE 897340	A	19831114	(198349)*		24
DE 3323078	A	19840126	(198405)		
FR 2530657	A	19840127	(198409)		
GB 2125407	A	19840307	(198410)		
SE 8304027	A	19840220	(198410)		
NL 8302587	A	19840216	(198411)		
JP 59039291	A	19840303	(198415)		
DK 8303235	A	19840312	(198417)		
ZA 8304291	A	19840120	(198417)		
FI 8302633	A	19840330	(198420)		
BR 8303615	A	19840612	(198431)		
HU 33218	T	19841029	(198449)		
US 4504582	A	19850312	(198513)		
CA 1195630	A	19851022	(198547)		
GB 2125407	B	19851224	(198601)		
CH 661744	A	19870814	(198738)		
IT 1163824	B	19870408	(198928)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 3323078	A	DE 1983-3323078	19830627
FR 2530657	A	FR 1983-10856	19830630
GB 2125407	A	GB 1983-19625	19830720
NL 8302587	A	NL 1983-2587	19830719
JP 59039291	A	JP 1983-132647	19830720
ZA 8304291	A	ZA 1983-4291	19830610
US 4504582	A	US 1983-464376	19830207

PRIORITY APPLN. INFO: US 1982-400141 19820720; US 1983-464376 19830207
AN 1983-833391 [49] WPIDS
AB BE 897340 A UPAB: 19930925
A process for immobilising biological materials by prepn. of an insolubilised **composite biological material** comprises:- (a) adding vermicilte particles to an aq. medium contg. the biological materials (I); (b) allowing the aq. medium contg. (I) to be absorbed by the vermiculite, and (c) coating the vermiculite with a polymer. Pref. the coated vermiculite from (c) is crosslinked with a crosslinking agent or condensed with a condens. agent. The prod. is also claimed.

The process is claimed for immobilising enzymes, microbial cells, antigens, antibodies, antibiotics, coenzymes bacteria, yeasts, fungi, plant cells, animal cells and/or tissue cultures. The process does not lower the biological activity of (I). The obtd. prod. has excellent resistance, durability, porosity and stability. A large amt. of (I) can be immobilised per unit vol. of final support.
0/0
ABEQ GB 2125407 B UPAB: 19930925
A method for immobilising biological materials by preparing an insolubilised biological material composite comprising the steps of: (a) mixing vermiculite particles with an aqueous medium of biological material; (b) allowing said aqueous medium of biological material to absorb into said vermiculite; and (c) coating said vermiculite with a polymer.
ABEQ US 4504582 A UPAB: 19930925
Prepn.of immobilised biological substances comprises addn. of vermiculite particles to an aq. medium contg. such substances, allowing the vermiculite to absorb the aq. medium; coating the vermiculite with a polymer; and treatment with a cross-linking, condensing or gelling agent to strengthen the polymer film.

USE - The process is esp. applicable to enzymes or cells producing enzymes, for use in catalysing synthetic reactions and in analysis.

L16 ANSWER 34 OF 36 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 8
ACCESSION NUMBER: 1983:310980 BIOSIS
DOCUMENT NUMBER: BA76:68472
TITLE: COMBUSTION OF WASTE WATERS CONTAINING ORGANIC ALKALINE SALTS.
AUTHOR(S): BARTZ H; FISSAN H; DOLAN D
CORPORATE SOURCE: UNIV. DUISBURG, AEROSOLMESSTECHNIK, BISMARCKSTR. 81, 4100 DUISBURG 1, FRG.
SOURCE: INT J ENVIRON ANAL CHEM, (1983) 13 (3), 193-204.
CODEN: IJEAA3. ISSN: 0306-7319.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB The **biological** treatment of waste waters from chemical industry containing organic and inorganic salts causes problems because these **materials** inhibit the **metabolic activity** of the bacteria. One possible and economically feasible way to convert the organic **materials** into less toxic forms is a thermal oxidation process, which can take place in a fluidized bed combustor or in a vertical combustion chamber. The process is described and parameters of the process are discussed. Results from particle **measurements** on a vertical combustion chamber for the combustion of various artificial

waste waters are presented. The chemical analysis of the particulate matter from different stages of the process allowed a detailed characterization of the **decomposition** of the organic **material**. Conclusions are drawn with respect to the process and the environment.

L16 ANSWER 35 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 81218002 EMBASE
DOCUMENT NUMBER: 1981218002
TITLE: The transfer of airborne pollutants to the Arctic region.
AUTHOR: Ottar B.
CORPORATE SOURCE: Norwegian Inst. Air Res., N-2001 Lillestrom, Norway
SOURCE: Atmospheric Environment, (1981) 15/8 (1439-1445).
CODEN: ATENBP
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal
FILE SEGMENT: 046 Environmental Health and Pollution Control
LANGUAGE: English
AB Chemical analysis of the Arctic aerosol has shown that considerable amounts of air pollutants are brought into the Arctic region in winter, particularly from sources in Europe and the eastern U.S.S.R. It is pointed out that **mercury** and chlorinated hydrocarbons, which after initial deposition can be re-emitted to the atmosphere by sublimation, must be subject to a systematic long term transfer from warmer to colder regions. For **mercury** natural emission may have resulted in an equilibrium between amounts deposited on the earth surface and ambient air concentrations. The heavier chlorinated hydrocarbons have probably not yet reached this stage. Continued large scale use of DDT and other chlorinated hydrocarbons may therefore lead to a long term increase of environmental concentrations, also in countries where restrictions on the use of these substances have led to a reduction of their concentrations in food and other **biological materials**. The Arctic is also the place where the first signs of a climatic change due to the increasing content of carbon dioxide and other pollutants in the atmosphere, may be **detected**. In order not to misinterpret any such symptoms, a detailed knowledge of the **composition** of the Arctic aerosol and its possible influence on the radiation balance is essential, and in view of the future oil exploitation activities in this region, the necessary investigations should not be delayed for too long.

L16 ANSWER 36 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 79136509 EMBASE
DOCUMENT NUMBER: 1979136509
TITLE: [A rapid **decomposition** process for large samples of **biological materials** and its use in the determination of trace quantities of heavy metals]. SCHNELLVERFAHREN FUR DEN AUFSCHLUSS VON GROSSEREN MENGEN AN **BIOMATERIAL** ZUR ANALYTISCHEN ERFASSUNG VON SCHWERMETALLSPUREN.
AUTHOR: Scheubeck E.; Nielson A.; Iwantscheff G.
CORPORATE SOURCE: Forschungslab. Siemens AG, D-8520 Erlangen, Germany
SOURCE: Fresenius Zeitschrift fur Analytische Chemie Labor und Betriebsverfahren, (1979) 294/5 (398-401).
CODEN: FZACBZ
COUNTRY: Germany
DOCUMENT TYPE: Journal
FILE SEGMENT: 046 Environmental Health and Pollution Control
LANGUAGE: German

SUMMARY LANGUAGE: English

AB A 20 g sample of **biological material** with a water content of 70-80% was pre-dried in a closed pressure vessel and thereafter burnt in oxygen. All traces of **metallic** poisons, which are present in the starting sample, find their way quantitatively into a solution consisting of the condensates from drying and combustion. The time required for **decomposition** is less than 30 min. **Mercury**, cadmium, lead and arsenic in amounts ranging from 50-250 ppb resp. in amounts of 1-5 .mu.g can be **detected** with a recovery rate of 80-90%.